

FRAXION®4 INTERNATIONAL

DEEP REGRESS

ADJUSTABLE

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

PROJECT NAME:	TYPE:
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ORDERING INFORMATION - DOWNLIGHT FITTING

SHAPE	TRIM	RATING	FLANGE FINISH	BAFFLE FINISH	CRI / WATTAGE PACKAGE	CCT	OPTIC (UGR)	INSTALL TYPE	CEILING THICKNESS	DRIVER	MEDIA
								EX	2		
F4R Round	FAD Standard Flange	1 IP20 Dry/Damp 2 IP64 Wet*	WH White	WH White	STATIC WHITE 80S11A 80+ CRI, 11W, Lumens Dlvd. - 1105 80S15A 80+ CRI, 15W, Lumens Dlvd. - 1479 80S21A 80+ CRI, 21W, Lumens Dlvd. - 2032 80S30B 80+ CRI, 30W, Lumens Dlvd. - 2607 90S11A 90+ CRI, 11W, Lumens Dlvd. - 949 90S15A 90+ CRI, 15W, Lumens Dlvd. - 1271 90S21A 90+ CRI, 21W, Lumens Dlvd. - 1746 90S30B 90+ CRI, 30W, Lumens Dlvd. - 2240 97S11A 97+ CRI, 11W, Lumens Dlvd. - 833 97S15A 97+ CRI, 15W, Lumens Dlvd. - 1116 97S21A 97+ CRI, 21W, Lumens Dlvd. - 1533 97S30B 97+ CRI, 30W, Lumens Dlvd. - 1967	24 2400K*	10 10° (<13)	EX Export	2 7mm-63mm	UNIVERSAL (120-277V)	STANDARD MEDIA
	MAD Microflange		AG Satin Silver	AG Satin Silver		24 2400K* *190+ CRI only. Not available for 30W package)	15 15° (<16)				
F4S Square	TAD Trimless	*Suction cup provided for Aim & Focus)	AU Cashmere Gold	AU Cashmere Gold	WARM DIM 90W15A 90+ CRI, 15W Incandescent Profile: 2700K - 1800K Lumens Dlvd. - 924 Halogen Profile: 3000K - 1800K Lumens Dlvd. - 936 SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON.	27 2700K	20 20° (<10)			AN3 eldoLED, ECOdrive 1.0% 0-10V, LOG LN1 eldoLED, ECOdrive 1.0% 0-10V, LIN EA1 eldoLED, SOLdrive 0.1% 0-10V, LOG LA1 eldoLED, SOLdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLdrive 0.1% DALI-2, LOG LD1 eldoLED, SOLdrive 0.1% DALI-2, LIN EX1 eldoLED, POWERdrive 0.1% DMX, LOG	04 Soft Focus Lens NL No Lens * *Standard with 10° optic. Not available for IP64 Wet Location or Warm Dim)
	MAD Microflange		BB Burnt Bronze	BB Burnt Bronze		27 2700K	25 25° (<13)				
	TAD Trimless		BK Black	BK Black	TUNABLE WHITE 90T13B 90+ CRI, 13W Cool Profile: 5000K - 2700K Lumens Dlvd. - 982 Warm Profile: 4000K - 1800K Lumens Dlvd. - 991 90T22B 90+ CRI, 22W Cool Profile: 5000K - 2700K Lumens Dlvd. - 1559 Warm Profile: 4000K - 1800K Lumens Dlvd. - 1573 LUMENS DELIVERED REFLECT 3000K PAIRED WITH 20° OPTIC AND SOFT FOCUS LENS.	30 3000K	20 20° (<10)		TUNABLE WHITE POWER SUPPLIES (120-277V)	03 Clear Glass Lens* * (Not available for Warm Dim) 05 Frosted Glass Lens 08 Frosted Soft Focus Lens 14 Wide Distribution Lens* * (Required and only available for 85° beam spread) 26 Frosted Linear Spread Lens 28 Adjustable Honeycomb Louver and Soft Focus Lens* * (Not available with 60° optic, or IP64 Wet Location)	
	TAD Trimless		PR Primer	PR Primer		35 3500K	40 40° (<16)				
	TAD Trimless		CF Custom Finish* * (Consult Factory)	CF Custom Finish* * (Consult Factory)	40 4000K	60 60° (<13)	85 85° (>19) * (Requires -14 WDL effects device)		DD1 eldoLED, DUALdrive 0.1% DALI-2, LOG		



PART NUMBER NOTES

- Fitting ships as e.g., F4RFAD1-WHWH-90S11A2-3E2-AN3
- Driver ships with fitting

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ACCESSORIES

ALTERNATE MEDIA

IP20 Dry / Damp location only.
IP64 Wet location requires alternate baffle.

- CGL-F4R-2** Clear Glass Lens*
*(Not available for Warm Dim)
- FGL-F4R-2** Frosted Glass Lens
- SFL-F4R-2** Soft Focus Lens
- FSFL-F4R-2** Frosted Soft Focus Lens
- WDL-F4R-2** Wide Distribution Lens*
*(Required and only available for 85° beam spread)
- FLSL-F4R-2** Frosted Linear Spread Lens

ADJUSTABLE HCL ASSEMBLY

IP20 Dry / Damp location only.

- OLR-F3RS1-SFL-HCL** Adjustable Honeycomb Louver and Soft Focus Lens

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES MEDIA)

ASSEMBLY	SHAPE	FITTING	RATING	FLANGE FINISH	MEDIA
RBA				1	
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FAD Standard Flange MAD Microflange TAD Trimless	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 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	FAD Standard Flange Transitional Baffle MAD Microflange Transitional Baffle TAD Trimless Transitional Baffle			

REPLACEMENT OPTICS

Interchangeable optics accessible through fixture aperture.

STATIC WHITE

- RO-50-15-S** 15° optic
- RO-50-20-S** 20° optic
- RO-50-25-S** 25° optic
- RO-50-40-S** 40° optic
- RO-50-60-S** 60° optic

WARM DIM

- RO-50-20-W2** 20° optic
- RO-50-25-W2** 25° optic
- RO-50-40-W2** 40° optic
- RO-50-60-W2** 60° optic

TUNABLE WHITE

- RO-50-15-T** 15° optic
- RO-50-20-T** 20° optic
- RO-50-25-T** 25° optic
- RO-50-40-T** 40° optic
- RO-50-60-T** 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

DRIVE CURRENT SPECIFICS

	80S				90S				97S				90W
	11A	15A	21A	30B	11A	15A	21A	30B	11A	15A	21A	30B	15A
Minimum Vf	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Maximum Vf	39	39	39	39	39	39	39	39	39	39	39	39	39
Current mA	250	350	500	700	250	350	500	700	250	350	500	700	350
Wattage W	8.2	11.8	17.4	25.4	8.2	11.8	17.4	25.4	8.2	11.8	17.4	25.4	11.8

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PERFORMANCE - 3000K

LUMEN PACKAGE	WATTS	10° OPTIC NO LENS		15° OPTIC SOFT FOCUS LENS		20° OPTIC SOFT FOCUS LENS		25° OPTIC SOFT FOCUS LENS		40° OPTIC SOFT FOCUS LENS		60° OPTIC SOFT FOCUS LENS		85° OPTIC WIDE DISTRIBUTION	
		DLVD.	LPW	DLVD.	LPW	DLVD.	LPW	DLVD.	LPW	DLVD.	LPW	DLVD.	LPW	DLVD.	LPW
80S11A	11	-	-	899	82	1105	100	1063	97	942	86	1022	93	853	78
80S15A	15	1079	98	1226	82	1479	99	1429	95	1273	85	1376	92	1133	76
80S21A	21	-	-	1664	79	2032	97	1897	90	1731	82	1860	89	1545	74
80S30B	30	-	-	2217	74	2607	87	2474	82	2204	73	2408	80	1984	66
90S11A	11	-	-	772	70	949	86	913	83	809	74	878	80	733	67
90S15A	15	930	85	1053	70	1271	85	1228	82	1094	73	1182	79	973	65
90S21A	21	-	-	1429	68	1746	83	1629	78	1487	71	1598	76	1328	63
90S30B	30	-	-	1905	64	2240	75	2125	71	1893	63	2069	69	1704	57
97S11A	11	-	-	678	62	833	76	802	73	711	65	771	70	643	58
97S15A	15	802	73	925	62	1116	74	1078	72	961	64	1038	69	854	57
97S21A	21	-	-	1255	60	1533	73	1431	68	1306	62	1403	67	1166	56
97S30B	30	-	-	1673	56	1967	66	1866	62	1662	55	1817	61	1496	50
90W15A (WL 27K-18K)	15	-	-	-	-	924	62	881	59	795	53	860	57	702	47
90W15A (WD 30K-18K)	15	-	-	-	-	936	62	897	60	803	54	867	58	730	49
90T13B (40K-18K)	13	-	-	814	63	991	76	957	74	849	65	921	71	731	56
90T13B (50K-27K)	13	-	-	806	62	982	76	948	73	841	65	913	70	724	56
90T22B (40K-18K)	22	-	-	1258	57	1573	72	1499	68	1346	61	1464	67	1167	53
90T22B (50K-27K)	22	-	-	1247	57	1559	71	1485	68	1334	61	1450	66	1157	53

OUTPUT MULTIPLIER

CCT	CCT SCALE
2400K	0.85
2700K	0.97
3000K	1.00
3500K	1.03
4000K	1.08

MEDIA LIGHT LOSS FACTOR

MEDIA	LIGHT LOSS FACTOR
NO LENS	1.06
CGL	1.00
SFL	1.00
FGL	0.89
FSFL	0.81
FLSL	0.82
HCL	0.73

TUNABLE WHITE MULTIPLIER

CCT	5000K-2700K	4000K-1800K
5000K	1.16	-
4000K	1.08	1.14
3500K	1.04	1.07
3000K	1.00	1.00
2700K	0.96	0.92
2400K	-	0.84
1800K	-	0.69

UNIFIED GLARE RATING

10° OPTIC NO LENS	15° OPTIC SOFT FOCUS LENS	20° OPTIC SOFT FOCUS LENS	25° OPTIC SOFT FOCUS LENS	40° OPTIC SOFT FOCUS LENS	60° OPTIC SOFT FOCUS LENS	85° OPTIC WIDE DISTRIBUTION
<13	<16	<13	<13	<16	<13	>19

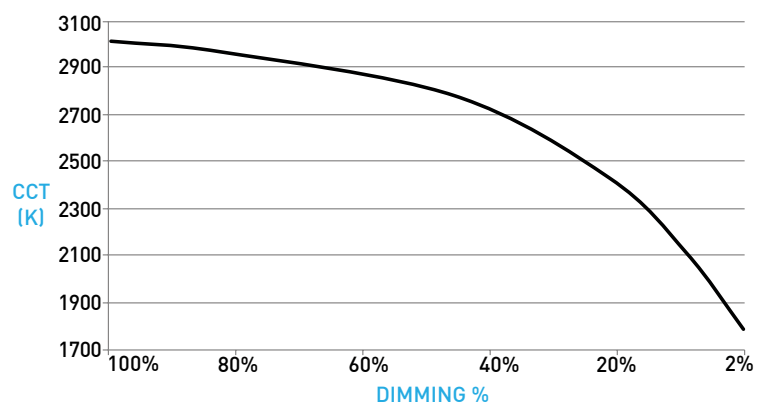
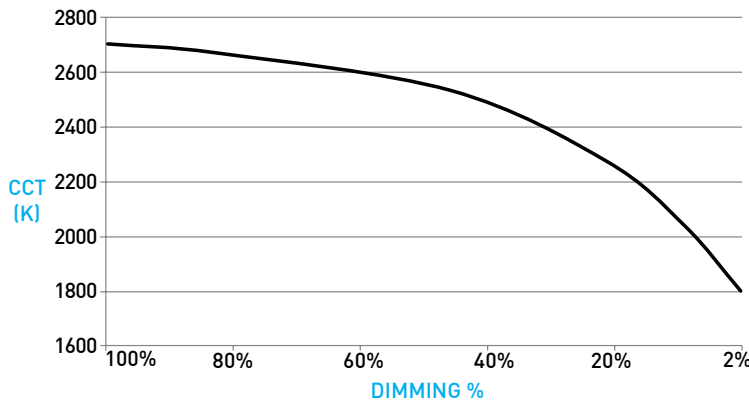
WARM DIM PERFORMANCE - 20° OPTIC - SOFT FOCUS LENS

WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

WL 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)	924	739	646	462	184	92	18
Power (W)	15	12	10.5	7.5	3	1.5	.3
Efficacy (LPW)	62	62	62	62	62	62	62

HALOGEN WARM DIM PROFILE

WD 3000K - 1800K	Full on 100%	Dimmed to 80%	Dimmed to 70%	Dimmed to 50%	Dimmed to 20%	Dimmed to 10%	Dimmed to 2%
CCT (K)	3000	2950	2920	2775	2375	2000	1800
Light Output (Lm)	936	748	655	468	187	93	18
Power (W)	15	12	10.5	7.5	3	1.5	.3
Efficacy (LPW)	62	62	62	62	62	62	62



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DOWNLIGHT FITTING

A ADJUSTABILITY

Hot-aim tilt up to 40° and 361° rotation with 5° tilt increment indicators. Sliding pivot point optimizes center beam, ensuring unclipped beam of 15° at 40° tilt and 22° at 30° tilt.

B BAFFLE

ROUND

Die-cast deep removable baffle provides easy access to tilting mechanism and features 60° glare cutoff. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

TRANSITIONAL BAFFLE

Die-cast deep removable baffle provides easy access to tilting mechanism and features 60° glare cutoff. Transitions from square aperture at ceiling plane to round aperture at light source. Minimizes aperture glare and conceals view into housing; includes silicone gasket.

C RETENTION

Integrated metal arm clamps located within fixture body allow discreet flange design, while accommodating varying ceiling thicknesses from 7mm to 64mm. Snap-on spacer clips (3X) supplied for ceiling thickness below 13mm only.

D1 STANDARD FLANGE PROFILE

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

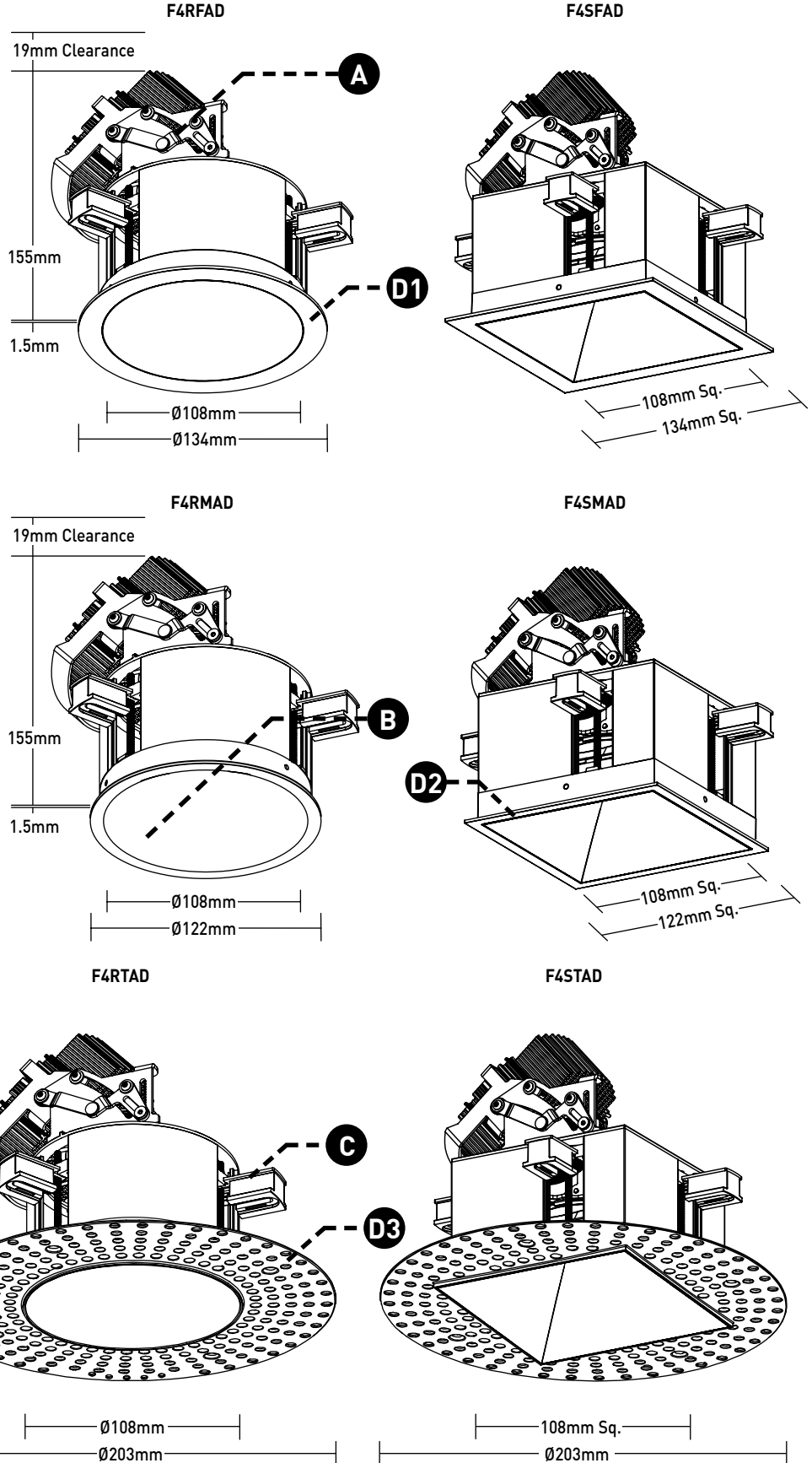
D2 MICROFLANGE PROFILE

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

D3 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

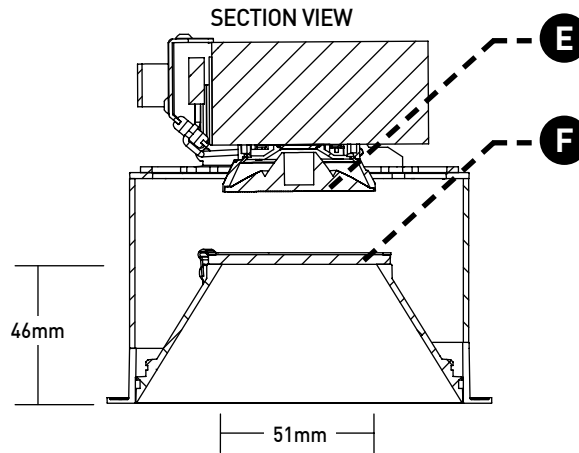


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DOWNLIGHT FITTING

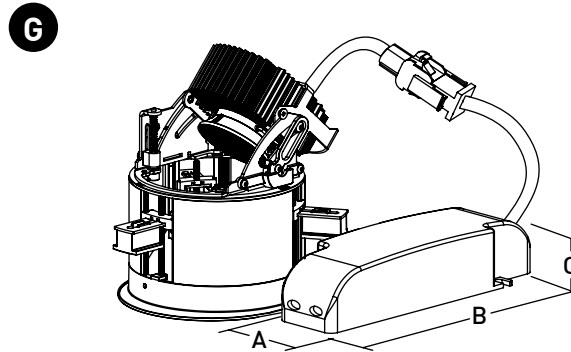
- E OPTIC**
Proprietary optic integrates Reflection, Refraction and TIR offering 10°, 15°, 20°, 25°, 40° & 60° beams.
- F MEDIA**
Soft focus lens included and sealed in IP64 Wet location option. Fixture is limited to 1 media. Suction tool provided for removal of IP64 Wet location baffles.

DIMENSIONS / DRAWINGS



CLEARANCE / POWER SUPPLY

- G FITTING WITH NON-IC TETHERED POWER SUPPLY**
 - Requires 113mm diameter cutout.
 - Tethered power supply protected wiring and quick-connect plug between fitting and power supply.
 - Minimum 19mm clearance from top of fitting.
 - Minimum setback from combustible and non-combustible 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).



POWER SUPPLY DIMENSIONS			
Model	A	B	C
AN3	41mm	210mm	34mm
LN1			
EA1			
LA1			
ED1			
LD1	76mm	152mm	30mm
EX1			
DD1			

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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 2700K, 3000K, 3500K and 4000K. 3-step MacAdam ellipse LED module available in 90+ CRI configuration in color temperature of 2400K. Average rated lamp life of 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. 3000K 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

3-step MacAdam ellipse tunable white LED module available in 90+ CRI configuration. Features tuning ranges of 1800K to 4000K and 2700K to 5000K. Average rated lamp life of 50,000 hours. LED and driver assemblies are field-replaceable.

POWER SUPPLY PERFORMANCE AND DIMMING INFORMATION

Power Supply	0-10V				DALI-2			DMX
	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.

LISTING

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

NEMA 410 Compliant.

U.S. Patent: 10,344,958

WEIGHT

Fitting - 2.8 lbs max

Driver - 0.4 lbs

LIMITED WARRANTY

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

CHANGE LOG

- 03/15/2021: UPDATED HIGH FLUX STATIC WHITE PHOTOMETRICS.
- 03/15/2021: REMOVED HIGH FLUX 97+ CRI 3500K OFFERING.
- 03/15/2021: REMOVED 15 AND 22 DEGREE OPTIC OFFERINGS FROM HIGH FLUX AND ADDED 28 DEGREE OPTIC OFFERING.
- 10/17/2022: REMOVED 90W13A 3200K-1800K WARM DIM AND ADDED 90W12A 3000K-1800K WARM DIM.
- 08/08/2023: ADDED NEW LED AND OPTIC SYSTEM
- 02/08/2024: ADDED 2400K, AND WARM PROFILE TUNABLE WHITE.

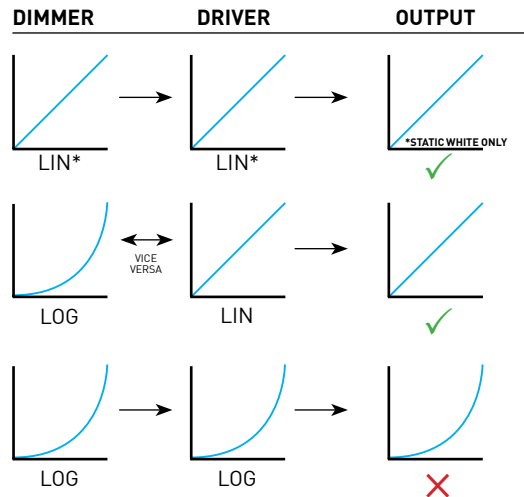
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DIMMING COMPATIBILITY

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	nI0 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
ABB	SD/S 2.16.1

ANALOG DRIVERS AND DIMMERS



LIN = LINEAR
 LOG = LOGARITHMIC
 *LIN-TO-LIN NOT COMPATIBLE FOR WARM-DIM OR TUNABLE WHITE