

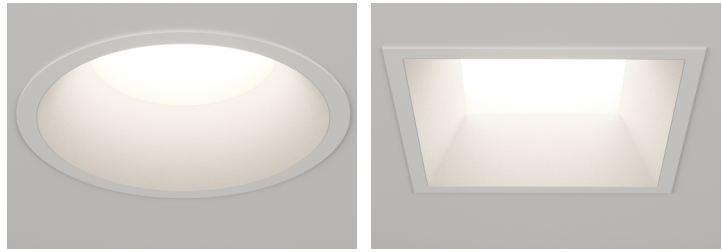
FRAXION®4

INTERNATIONAL

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	1		
F4R Round	FAS Standard Flange MAS Microflange TAS Trimless	1 IP20 Dry/Damp 2 IP64 Wet*	WH White AG Satin Silver AU Cashmere Gold	WH White AG Satin Silver AU Cashmere Gold	STATIC WHITE 80S11A 80+ CRI, 11W, Lumens Dlvld. - 1277 80S15A 80+ CRI, 15W, Lumens Dlvld. - 1710 80S21A 80+ CRI, 21W, Lumens Dlvld. - 2349 80S30B 80+ CRI, 30W, Lumens Dlvld. - 3156 90S11A 90+ CRI, 11W, Lumens Dlvld. - 1097 90S15A 90+ CRI, 15W, Lumens Dlvld. - 1469 90S21A 90+ CRI, 21W, Lumens Dlvld. - 2018 90S30B 90+ CRI, 30W, Lumens Dlvld. - 2711 97S11A 97+ CRI, 11W, Lumens Dlvld. - 963 97S15A 97+ CRI, 15W, Lumens Dlvld. - 1290 97S21A 97+ CRI, 21W, Lumens Dlvld. - 1772 97S30B 97+ CRI, 30W, Lumens Dlvld. - 2380	24 2400K* *90+ CRI only. Not available for 30W package) 27 2700K 30 3000K 35 3500K 40 4000K	10 10° (<13) * (15W package only) 15 15° (<16) 20 20° (<13) 25 25° (<13) 40 40° (<16) 60 60° (<13) 85 85° (>19) * (Requires -14 WDL effects device)	EX Export	1 7mm-32mm	UNIVERSAL (120-277V) AN3 eldoLED, ECOdrive 1.0% 0-10V, LOG LN1 eldoLED, ECOdrive 1.0% 0-10V, LIN EA1 eldoLED, SOLOdrive 0.1% 0-10V, LOG LA1 eldoLED, SOLOdrive 0.1% 0-10V, LIN ED1 eldoLED, SOLOdrive 0.1% DALI-2, LOG LD1 eldoLED, SOLOdrive 0.1% DALI-2, LIN EX1 eldoLED, POWERdrive 0.1% DMX, LOG	STANDARD MEDIA 04 Soft Focus Lens NL No Lens* * (Standard with 10° optic. Not available for IP64 Wet Location or Warm Dim) ALTERNATE MEDIA 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
F4S Square	FAS Standard Flange MAS Microflange TAS Trimless FAT Standard Flange Transitional Baffle MAT Microflange Transitional Baffle TAT Trimless Transitional Baffle	* (Suction cup provided for Aim & Focus)	BB Burnt Bronze BK Black PR Primer 00 Trimless* * (Required for trimless) CF Custom Finish* * (Consult Factory)	BB Burnt Bronze BK Black PR Primer CF Custom Finish* * (Consult Factory)	WARM DIM 90W15A 90+ CRI, 15W Incandescent Profile: 2700K - 1800K Lumens Dlvld. - 1068 Halogen Profile: 3000K - 1800K Lumens Dlvld. - 1082 SEE PAGE 3 FOR DETAILED WARM DIM PROFILE COMPARISON.	WL 2700K - 1800K WD 3000K - 1800K	20 20° (<10) 25 25° (<10) 40 40° (<10) 60 60° (<10) 85 85° (>19) * (Requires -14 WDL effects device)			TUNABLE WHITE POWER SUPPLIES (120-277V) DD1 eldoLED, DUALdrive 0.1% DALI-2, LOG	
					TUNABLE WHITE 90T13B 90+ CRI, 13W Cool Profile: 5000K - 2700K Lumens Dlvld. - 1213 Warm Profile: 4000K - 1800K Lumens Dlvld. - 1219 90T22B 90+ CRI, 22W Cool Profile: 5000K - 2700K Lumens Dlvld. - 1213 Warm Profile: 4000K - 1800K Lumens Dlvld. - 1219 LUMENS DELIVERED REFLECT 3000K PAIRED WITH 20° OPTIC AND SOFT FOCUS LENS.	TH 5000K - 2700K TR 4000K - 1800K	15 15° (<16) 20 20° (<10) 25 25° (<13) 40 40° (<13) 60 60° (<13) 85 85° (>19) * (Requires -14 WDL effects device)				SEE PAGE 3 FOR UGR RATINGS



PART NUMBER NOTES

- Fitting ships as e.g., F4RFAS1-WHWH-90S15A2-3E1-AN3
- Driver ships with fitting

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ACCESSORIES

ROUND ALTERNATE MEDIA

IP20 Dry / Damp location only.
IP64 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 MEDIA

IP20 Dry / Damp location only.
IP64 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

REPLACEMENT BAFFLE ASSEMBLY (INCLUDES MEDIA)

ASSEMBLY	SHAPE	FITTING	RATING	FLANGE FINISH	MEDIA
RBA				1	
REPLACEMENT BAFFLE ASSEMBLY	F4R Round	FAS Standard Flange MAS Microflange TAS 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	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.

STATIC WHITE

- RO-70-15-S** 15° optic
- RO-70-20-S** 20° optic
- RO-70-25-S** 25° optic
- RO-70-40-S** 40° optic
- RO-70-60-S** 60° optic

WARM DIM

- RO-70-20-W2** 20° optic
- RO-70-25-W2** 25° optic
- RO-70-40-W2** 40° optic
- RO-70-60-W2** 60° optic

TUNABLE WHITE

- RO-70-15-T** 15° optic
- RO-70-20-T** 20° optic
- RO-70-25-T** 25° optic
- RO-70-40-T** 40° optic
- RO-70-60-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	-	-	1221	111	1277	116	1261	115	1199	109	1150	105	1053	93
80S15A	15	1436	131	1665	111	1710	114	1695	113	1620	108	1548	103	1399	93
80S21A	21	-	-	2259	108	2349	112	249	107	2202	105	2093	100	1909	91
80S30B	30	-	-	3015	100	3156	105	3093	103	2949	98	2803	93	2502	83
90S11A	11	-	-	1049	95	1097	100	1083	98	1030	94	988	90	905	82
90S15A	15	1238	113	1430	95	1469	98	1456	97	1392	93	1330	89	1202	80
90S21A	21	-	-	1941	92	2018	96	1932	92	1892	90	1798	86	1640	78
90S30B	30	-	-	2590	86	2711	90	2657	89	2533	84	2408	80	2149	72
97S11A	11	-	-	921	84	963	88	951	86	904	82	867	79	795	72
97S15A	15	1068	97	1256	84	1290	86	1278	85	1222	81	1168	78	1055	70
97S21A	21	-	-	1704	81	1772	84	1696	81	1661	79	1579	75	1440	69
97S30B	30	-	-	2274	76	2380	79	2333	78	2224	74	2114	70	1887	63
90W15A (27K-18K)	15	-	-	-	-	1068	71	1045	70	1011	67	968	65	861	57
90W15A (30K-18K)	15	-	-	-	-	1082	72	1064	71	1022	68	976	65	895	60
90T13B (40K-18K)	13	-	-	1095	84	1131	87	1124	86	1070	82	1027	79	888	68
90T13B (50K-27K)	13	-	-	1095	84	1131	87	1124	86	1070	82	1027	79	888	68
90T22B (40K-18K)	22	-	-	1693	77	1796	82	1761	80	1697	77	1632	74	1418	64
90T22B (50K-27K)	22	-	-	1693	77	1796	82	1761	80	1697	77	1632	74	1418	64

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

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

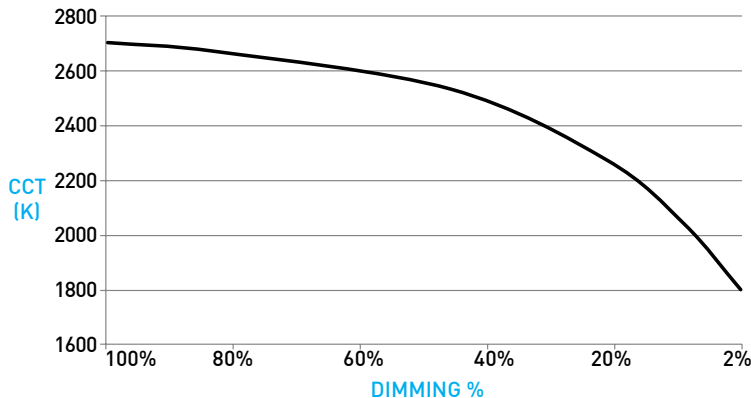
UNIFIED GLARE RATING

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

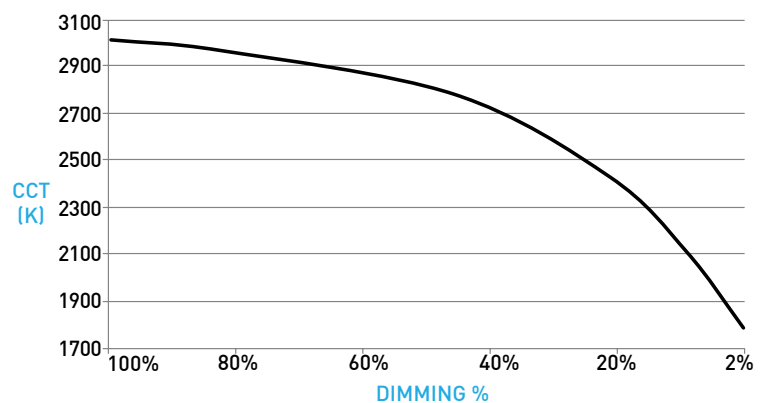
WARM DIM TO MIRROR INCANDESCENT DIMMING PROFILE

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)	1068	854	747	534	213	106	21
Power (W)	15	12	10.5	7.5	3	1.5	.3
Efficacy (LPW)	71	71	71	71	71	71	71



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)	1082	865	757	541	216	108	22
Power (W)	15	12	10.5	7.5	3	1.5	.3
Efficacy (LPW)	72	72	72	72	72	72	72



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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 25° at 30° tilt.

B BAFFLE

ROUND / SQUARE

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

Die-cast removable baffle provides easy access to tilting mechanism and features 72° 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 32mm. 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.

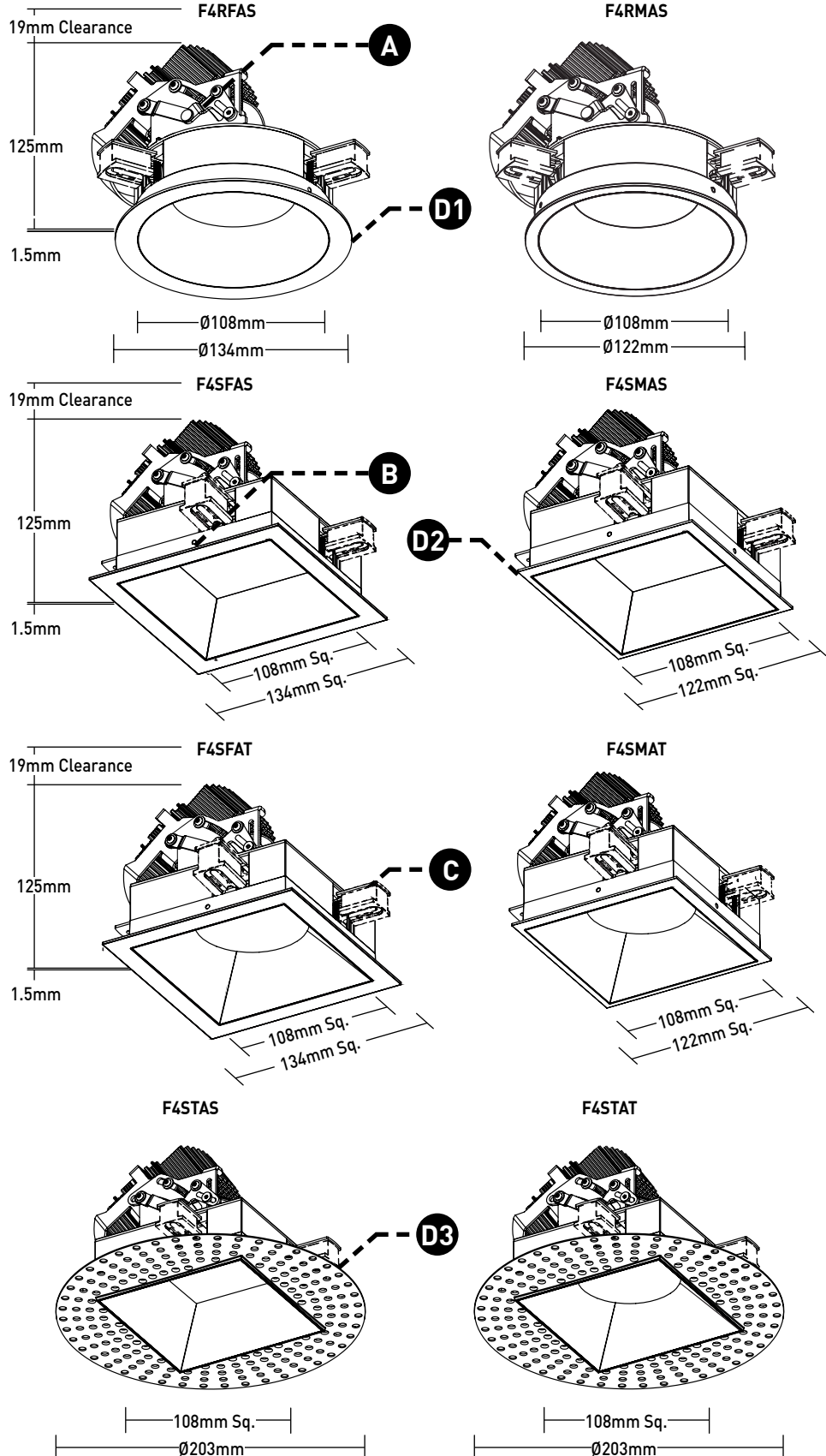
D2 MICROFLANGE PROFILE

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

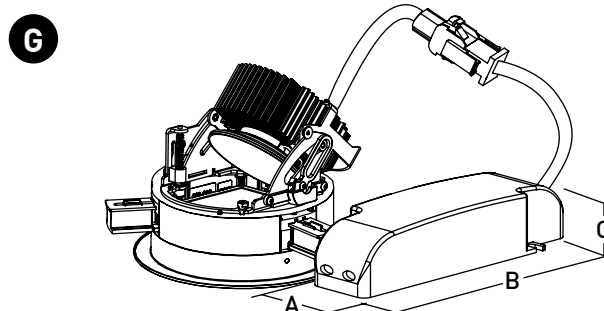
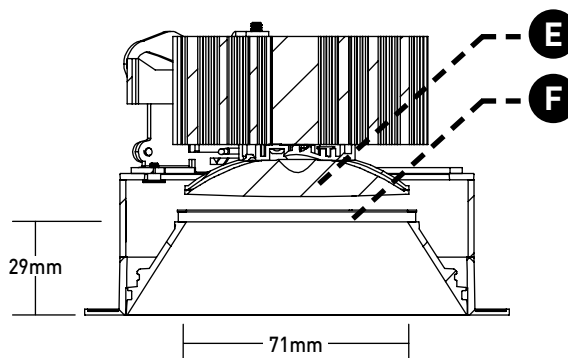
E OPTIC
Proprietary optic integrates Reflection, Refraction and TIR offering 10°, 15°, 15°, 25°, 40° & 60° beams.

F MEDIA
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

- 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).

DIMENSIONS / DRAWINGS



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 - 2.4 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.
- 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.

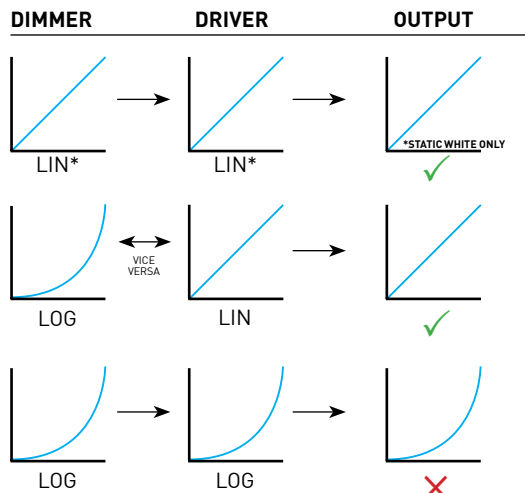
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DIMMING COMPATIBILITY

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