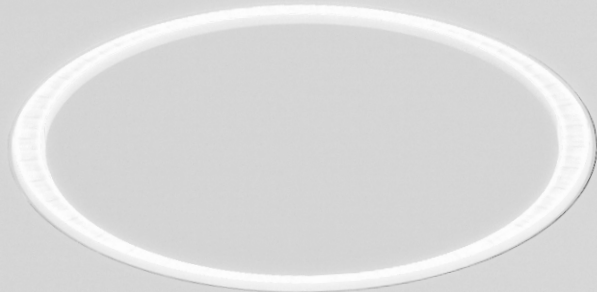
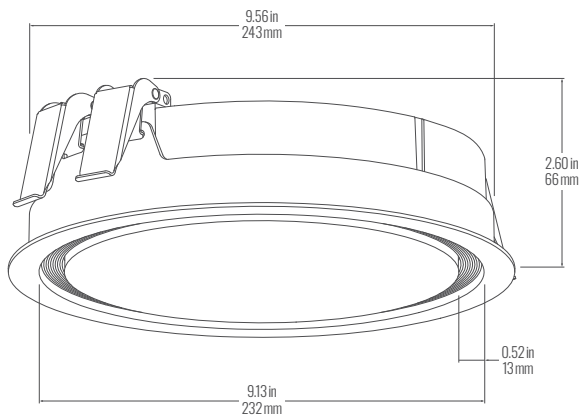


FLUXWERX®

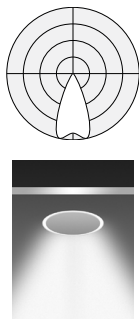


DIMENSIONS

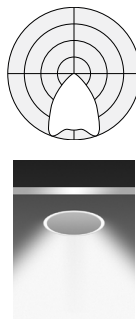


BEAM ANGLES

Medium Beam (45°)



Wide Beam (75°)



SPECIFICATION DATA

PORTAL RECESSED 9" (TC1-R09)

CATALOG

PROJECT

NOTES

PERFORMANCE FOCUS

9" Medium Beam, 80 CRI 4000 K

Energy (W)		Light (lm)	Efficacy (lm/W)	Certified
B	12 W	1800	149	ENERGY STAR TITLE 24 JA8 (90 CRI)
C	16 W	2400	150	
D	21 W	3100	146	
E	28 W	4000	143	
Color Matching (SDCM)		Lumen Maintenance (hr)		
		L80 per TM21	L70 Estimate	
< 2		> 72,000	> 160,000	

Nominal values, refer to back pages for full performance data.

FEATURES

- Portal reimagines directional and general area illumination. Proprietary optics deliver exceptional lighting control from a minimalist aesthetic.
- To support your design vision, both 5.5" & 9" sizes are available in six mounting variants – Recessed, Semi-Recessed, Semi-Recessed Adjustable, Surface, Surface Adjustable & Pendant.
- Light outputs range from 1200 lm (5.5") to 4100 lm (9") with efficacies exceeding 150 lm/W.
- Flexible lighting schemes are enabled by beam angles of 30°, 45° & 65°, as well as 20 | 80 and 50 | 50 direct/indirect pendant distributions.
- White, Metallic Silver & Black powdercoat finishes (plus RAL colors) can be combined to augment the ceiling design.
- 80 and 90 CRI LEDs are available in four CCTs – 2700 K, 3000 K, 3500 K, 4000 K.

Declare.



SPECIFICATION DATA

PORTAL RECESSED 9" (TC1-R09)

ORDER GUIDE

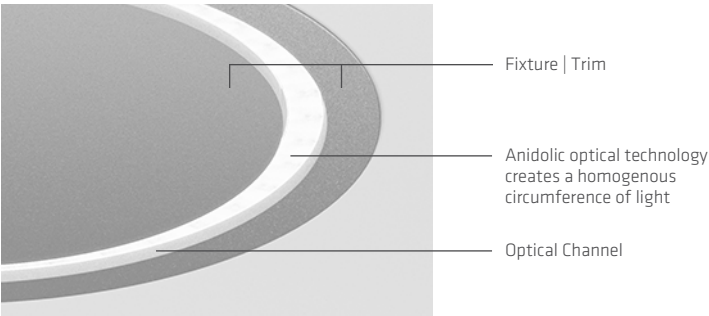
1	2	3	4	5	6	7	8	9	10	11	12	OPTIONS	CONTROLS
TC1	–	R	09										

1	FAMILY	2	VERSION	3	SIZE	4	CEILING TYPE	5	HOUSING / TRIM	
TC1	Portal	—	R	Recessed	05	5.5"	D	Drywall	K1	Trim Flange
					▶ 09	9"	G	Grid	K2	Drywall Trimless
							R	Remote Driver		

6 FINISH		7 BEAM SPREAD		8 CRI		9 CCT		10 ENERGY ¹	
FIXTURE / TRIM FINISH		OPTIC CHANNEL FINISH		M1 Medium (45°)		27 2700 K		B 12 W	
B	Black Powdercoat	B	Black Powdercoat	W1 Wide (75°)		30 3000 K		C 16 W	
S	Metallic Silver Powdercoat	S	Metallic Silver Powdercoat			35 3500 K		D 21 W	
W	White Powdercoat	W	White Powdercoat			40 4000 K		E 28 W	
C	Custom Color (RAL)	C	Custom Color (RAL)						
								</	

11	DRIVER	12	VOLTAGE	OPTIONS	CONTROLS	
F1	Non-Dim	M	120~277 V	B Battery Pack ⁵	TYPE & LOCATION ⁷	BRAND & PROTOCOL ⁷
F2	0~10 V Dim 3%	1	120 V ³	C Chicago Plenum	R Remote Sensor / Controller on Ceiling	N1 Acuity nLight Wired ⁸
F4	Line Voltage Dim (Fwd/Rev) 3% 120 V	2	277 V ³	F 6' Flex Whip		N2 Acuity nLight Air r10 ⁸
E1	eldoLED ECO 0~10 V Dim 1%	3	347 V ⁴	H Emergency Switch (GTD) ⁶	V Controller on Driver / Plenum Side	N3 Acuity nLight Air RPP20 ⁸
E2	eldoLED SOLO 0~10 V Dim 0.1%					E1 Enlighted Smart Sensor ⁹
E3	eldoLED ECO DALI-2 DT6 Dim 1%					L1 Lutron Athena Wireless
E4	eldoLED SOLO DALI-2 DT6 Dim 0.1%					M1 Legrand Wattstopper PLUS
L1	Lutron Hi-Lume 1% EcoSystem (LDE1)					V1 Leviton Intellect Wireless
L3	Lutron Hi-Lume Premier 0.1% EcoSystem (PEQO) ²					
		³ Fixed voltage only for (F4) Line Dim Driver or nLight controls.		⁵ BP: Detached & prewired with Trim & Trimless (K1, K2).	⁷ Controls selection may be limited by version, protocol or other features – see Controls page.	
		⁴ 347V: Remote with transformer.		⁶ GTD not compatible with (F4) Line Dim driver.		
² Max Energy C (16W).					⁸ nLight: Controller (V) only. ⁹ Enlighted: Sensor/Controller (R) only.	

PRODUCT DETAILS



FINISHES

All finishes high temperature powder coated. Fixture with trim shown.



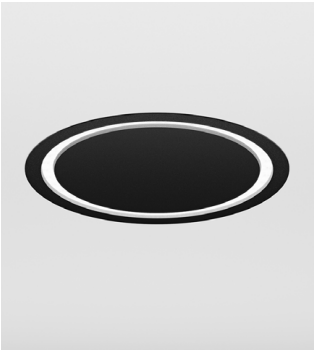
BLACK FIXTURE / TRIM
BLACK OPTIC CHANNEL



SILVER FIXTURE / TRIM
SILVER OPTIC CHANNEL



WHITE FIXTURE / TRIM
WHITE OPTIC CHANNEL



BLACK FIXTURE / TRIM
WHITE OPTIC CHANNEL



SILVER FIXTURE / TRIM
BLACK OPTIC CHANNEL



WHITE FIXTURE / TRIM
BLACK OPTIC CHANNEL

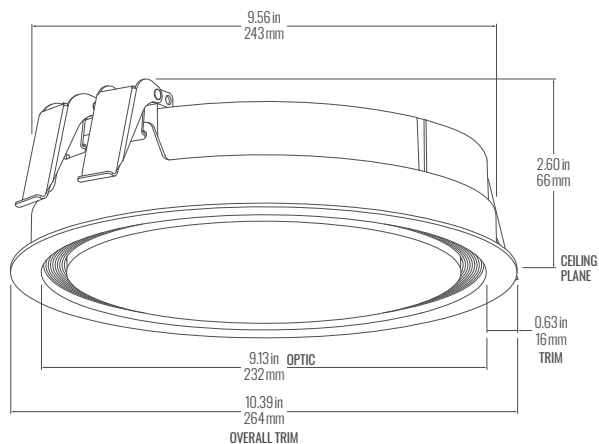


SPECIFICATION DATA
PORTAL RECESSED 9" (TC1-R09)

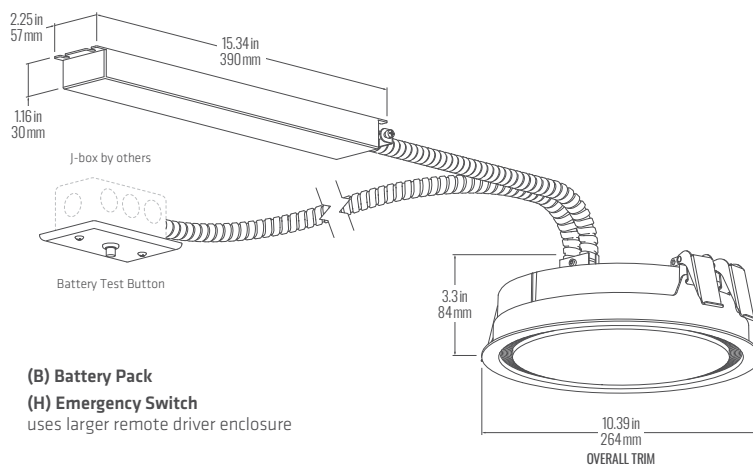
CEILING INTEGRATION – HOUSING

TRIM FLANGE (GRID & DRYWALL)

Cutout diameter: 9.75" (248 mm)
Minimum plenum clearance (from finished ceiling plane): 4.0" (102 mm)
Ceiling thickness: 0.5"-1.5" (e.g. acoustic tile, CWB, wood)



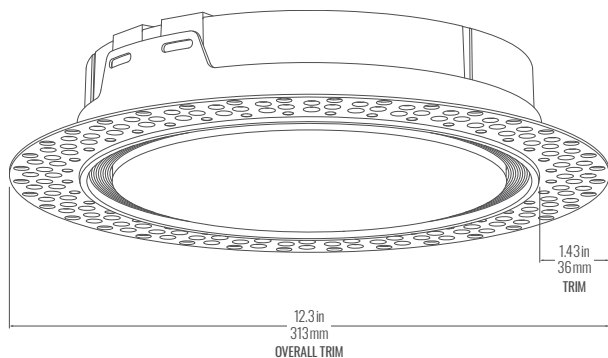
(K1) Internal driver



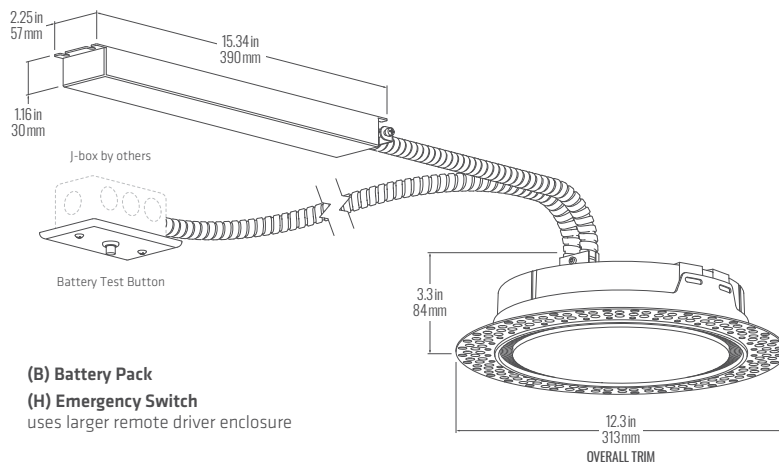
(B) Battery Pack
(H) Emergency Switch
uses larger remote driver enclosure

DRYWALL TRIMLESS (MUD-IN)

Cutout diameter: 9.75" (248 mm)
Minimum plenum clearance (from finished ceiling plane): 5.5" (140 mm)



(K2) Internal driver



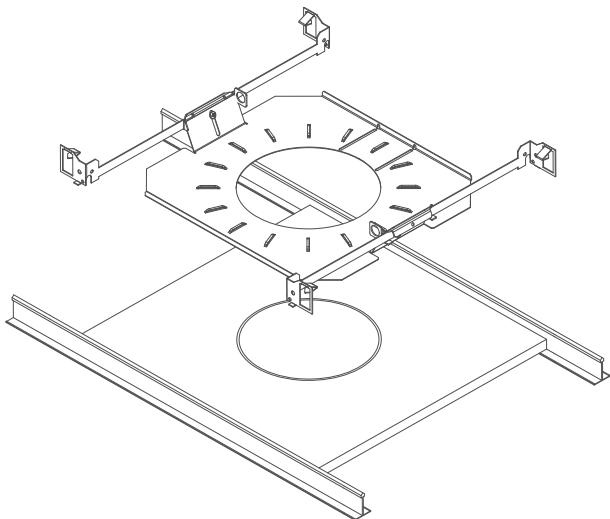
(B) Battery Pack
(H) Emergency Switch
uses larger remote driver enclosure

SPECIFICATION DATA
PORTAL RECESSED 9" (TC1-R09)

CEILING INTEGRATION – ROUGH-IN FRAME

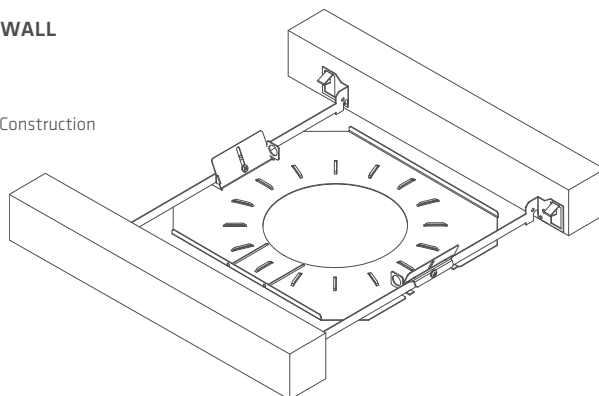
Rough-in frame included with fixture.

GRID CEILING

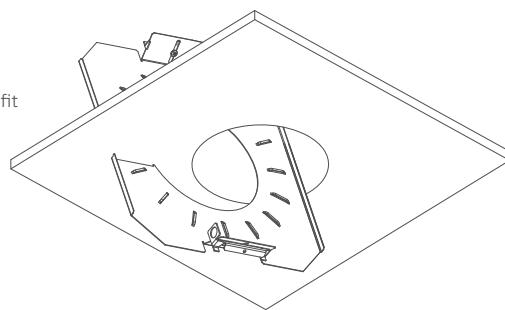


DRYWALL

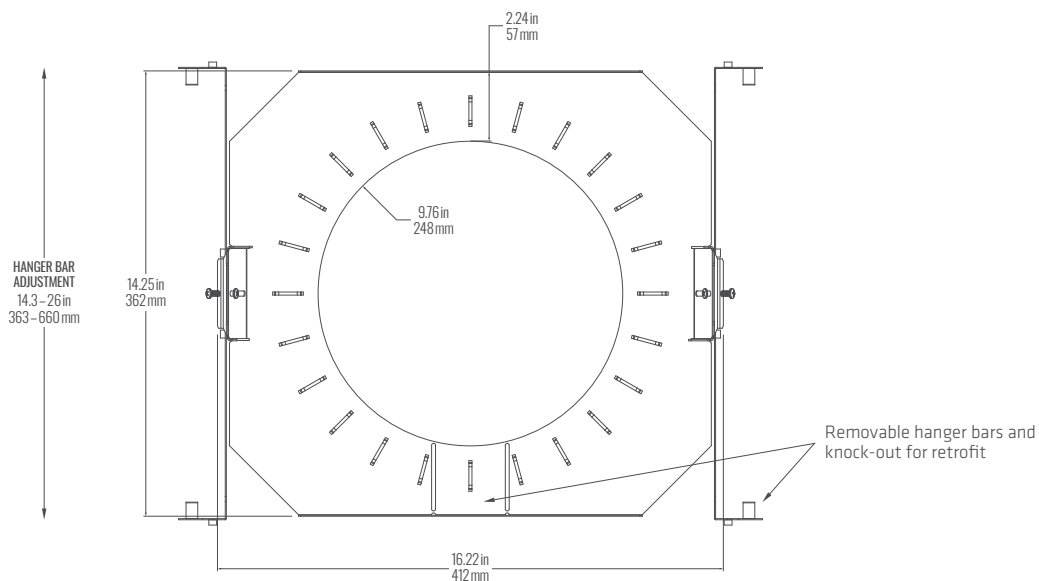
New Construction



Retrofit



FRAME DIMENSIONS



CONTROLS & SENSORS

LUMINAIRE INTEGRATION



V
Controller,
Enclosure/Plenum Side

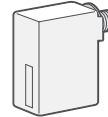


R
Sensor,
Remote/on Ceiling

(N1) Acuity
nLight Wired



nLight wired, digital network.
Model: nPS-80-EZ or nPS-80-EZ-ER
(with H – Emergency Switching)

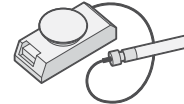


VN1 nLight Wired Controller, Remote Enclosure

(N2, N3) Acuity
nLight Air



Acuity nLight wireless network
interfaces.
Models: rIO, rPP20

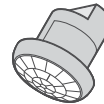


VN2 nLight rIO Controller, Remote Enclosure
VN3 nLight rPP20 Controller, Remote Enclosure

(E1) Siemens
Enlighted



Siemens Enlighted wireless smart
sensor-controllers.
Model: SU-5E-CL

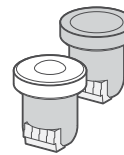


RE1 Enlighted Smart Sensor, Remote/on Ceiling

(L1) Lutron
Athena



Lutron Athena wireless smart
controllers & sensors.
Models: A-WN-D01-RF, A-WN-D01-OCC
For YL1 and SL1:
Default Athena color to match fixture/canopy color
Canopy Athena
WH WH
SV BK
BK BK
For VL1 and RL1: default WH



VL1 Athena Controller, Enclosure/Plenum Side
RL1 Athena Sensor, Remote/on Ceiling

(M1) Legrand
Wattstopper
PLUS



Wattstopper PLUS wireless smart
controllers & sensors.
Models: ZBHA-CLM, EN-CLM-PIR

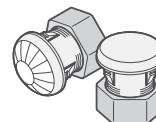


VM1 Wattstopper PLUS Control Module,
Enclosure/Plenum Side
RM1 SensiLUM Sensor, Remote/on Ceiling

(V1) Leviton
Intellect



Leviton Intellect wireless smart
controllers & sensors.
Models: ZL0x0, ZL0xS



VV1 Intellect Controller, Enclosure/Plenum Side
RV1 Intellect Sensor, Remote/on Ceiling

Ask us about...

Pass & Seymour®

EATON

DISTECH
CONTROLS

CRESTRON

CASAMBI

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Due to continuous product improvements, specifications and dimensions are subject to change without notice.
Certain options have limited compatibility with some other product selections. Consult www.fluxwerx.com for most current technical information.

SPECIFICATION DATA
PORTAL RECESSED 9" (TC1-R09)

NOTES

CONSTRUCTION

- Architectural grade aluminum and 22 ga. steel housings
- Trim flange and drywall trimless housings suitable for new build or retrofit in grid or GWB ceilings
- White, metallic silver or black textured powdercoat standard finishes

OPTICAL

- Circular anidolic optical structures
- Precision molded high transmittance clear acrylic lenses
- Long life LED system designed for typical TM21 lumen maintenance \geq L80 @ 72,000 h
- Available in 2700 K, 3000 K, 3500 K, 4000 K with CRI \geq 80 and R9 \geq 0, or CRI \geq 90 and R9 \geq 50, all with color accurate binning \leq 2 SDCM

ELECTRICAL

- Integral high efficiency drivers for 50–60 Hz, 120–277 V or 347 V
- Power Factor: > 0.87 (Drivers F1, F2, E1-E4) > 0.70 (Driver L1, Energy B-E)
- Total Harmonic Distortion: $< 20\%$ (Drivers F1, F2, E1-E4)
- Dim level: Standard 3%, optional 1% or 0.1%
- Optional flex whip: 6' prewired
- Surge Protection: Meets ANSI C82.1 spec and ANSI/IEEE C62.41
- Inrush Current: Meets NEMA 410

EMERGENCY

- Optional Battery Pack delivers 10 W Class 2 rated output for 90 min. See Family Performance for estimated emergency output
- Optional GTD (Generator Transfer Switch), 120–277 V, disables 0–10 V control during emergency for full light output

WIRE GAUGE

- Recommended low voltage wire gauge (AWG) for minimal losses over distance when REMOTE mounting:
30 ft | 18 ga
50 ft | 14 ga
80 ft | 12 ga

ENVIRONMENTAL & CARE

- Designed for use in dry or damp indoor locations with ambient temperatures of 0–30°C (32–86°F)
- The luminaire may be damaged by chemicals such as chlorine, solvents, ammonia, alcohol or sulfur in the area of operation or in cleaning products. Damage from contaminants is not covered under warranty.
- Not suitable for natatorium environments, e.g. swimming pools, hot tubs and saunas.
- Clean only by wiping with a slightly water-damp, soft, clean cloth.

WEIGHT

- Maximum 8.4 lbs (3.8 kg) with driver only
- Maximum 12 lbs (5.4 kg) with battery pack or 347 V transformer

WARRANTY

- 5 year limited warranty on all components and workmanship



INDEPENDENT TESTING


- IESNA LM79
- IESNA LM80 (LED @ 12,000 h)

APPROVALS

- UL Listed (USA + Canada)
- CCEA Chicago Plenum
- IC Rated
- Energy Star
- Title 24 JA8-2019 (90 CRI versions)
- Living Building Challenge (LBC) Declared

DRIVERS + EMERGENCY

STANDARD DRIVER OPTIONS	
OPTOTRONIC® ADVANCE 	F1 Non-Dim F2 0–10 V Dim 3% F4 Line Voltage Dim 3% (Forward/Reverse) 120 V
eldoLED®	E1 eldoLED ECO 0–10 V Dim 1% E2 eldoLED SOLO 0–10 V Dim 0.1% E3 eldoLED ECO DALI-2 DT6 Dim 1% E4 eldoLED SOLO DALI-2 DT6 Dim 0.1%
	L1 Lutron Hi-Lume 1% EcoSystem (LDE1) L3 Lutron Hi-Lume Premier 0.1% EcoSystem (PEQ0)

EMERGENCY OPTIONS	
	B Battery Pack Bodine BSL310 (10 W) H Emergency Switching Functional Devices ESRB Emergency Lighting Relay

Driver and emergency selection may be limited by product or version.
For further options, contact Fluxwerx.

SPECIFICATION DATA
PORTAL RECESSED 9" (TC1-R09)

FAMILY PERFORMANCE

COLOR

80 CRI	4000 K	3500 K	3000 K	2700 K
Color Rendering (CRI)	83	82	82	83
Red Index (R9)	5	3	3	5
Fidelity (TM-30 R _f)	84	83	84	86
Gamut (TM-30 R _g)	93	96	94	95
Color Matching (SDCM)	< 2			

90 CRI	4000 K	3500 K	3000 K	2700 K
Color Rendering (CRI)	93	93	93	93
Red Index (R9)	59	57	57	57
Fidelity (TM-30 R _f)	90	89	90	91
Gamut (TM-30 R _g)	97	99	97	97
Color Matching (SDCM)	< 2			

Typical colorimetry values.



90 CRI

LUMEN MAINTENANCE

	B 12 W	C 16 W	D 21 W	E 28 W
L80 per TM-21 (hr)	> 72,000			
L70 Estimate (hr)	> 160,000			

OUTPUT MULTIPLIERS

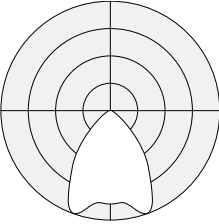
MULTIPLIER	Applies To	
90 CRI	0.86	All 80 CRI
Battery Pack	0.98	Energy B (12 W)

OPTIC CHANNEL FINISH	Medium Beam	Wide Beam
Black	0.94	0.92
Metallic Silver	0.94	0.92

For 90 CRI, emergency BP or non-white fixtures, use multipliers to scale published Light (lm), Efficacy (lm/W), Intensity (Cd), Luminance (Cd/m²) and IES files.

VERSION PERFORMANCE

W1 – 9" Wide Beam, White Optic Channel, 80 CRI

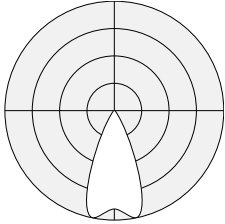
CONFIGURATION			LIGHT & POWER				VISUAL COMFORT			LIGHT DISTRIBUTION
CCT	ENERGY (NOM.)		LIGHT (lm)	POWER (W)	EFFICACY (lm/W)	MAX BEAM INTENSITY (Cd)	MAX INTENSITY 45-90° (Cd)	MAX LUMINANCE 45-90° (Cd/m ²)	UGR (4H x 8H)	
TC1-R09-W1840 4000 K	B	12 W	1757	12.24	143.6	1,152	342	>10,000	14.1	 <p>Portal Recessed 9" Wide Beam</p>
	C	16 W	2332	16.11	144.7	1,529	454	>10,000	15.0	
	D	21 W	2993	21.20	141.2	1,962	582	>10,000	15.9	
	E	28 W	3864	27.90	138.5	2,534	752	>10,000	16.8	
TC1-R09-W1835 3500 K	B	12 W	1734	12.24	141.7	1,137	337	>10,000	14.0	
	C	16 W	2301	16.11	142.8	1,509	448	>10,000	15.0	
	D	21 W	2953	21.20	139.3	1,936	575	>10,000	15.9	
	E	28 W	3813	27.90	136.7	2,500	742	>10,000	16.8	
TC1-R09-W1830 3000 K	B	12 W	1673	12.24	136.7	1,097	326	>10,000	13.9	
	C	16 W	2220	16.11	137.8	1,455	432	>10,000	14.9	
	D	21 W	2849	21.20	134.4	1,868	554	>10,000	15.7	
	E	28 W	3678	27.90	131.8	2,412	716	>10,000	16.6	
TC1-R09-W1827 2700 K	B	12 W	1600	12.24	130.7	1,049	311	>10,000	13.7	
	C	16 W	2123	16.11	131.8	1,392	413	>10,000	14.7	
	D	21 W	2725	21.20	128.5	1,787	530	>10,000	15.6	
	E	28 W	3519	27.90	126.1	2,307	685	>10,000	16.5	

Beam Angle 77°

SPECIFICATION DATA
PORTAL RECESSED 9" (TC1-R09)

VERSION PERFORMANCE

M1 – 9" Medium Beam, White Optic Channel, 80 CRI

CONFIGURATION			LIGHT & POWER				VISUAL COMFORT			LIGHT DISTRIBUTION
CCT	ENERGY (NOM.)		LIGHT (lm)	POWER (W)	EFFICACY (lm/W)	MAX BEAM INTENSITY (Cd)	MAX INTENSITY 45-90° (Cd)	MAX LUMINANCE 45-90° (Cd/m²)	UGR (4H x 8H)	
TC1-R09-M1840 4000 K	B	12 W	1820	12.24	148.7	2,815	83	2,720	11.9	 <p>Portal Recessed 9" Medium Beam</p>
	C	16 W	2415	16.11	149.9	3,736	111	3,610	12.8	
	D	21 W	3099	21.20	146.2	4,794	142	4,630	13.7	
	E	28 W	4002	27.95	143.2	6,190	183	5,980	14.6	
TC1-R09-M1835 3500 K	B	12 W	1796	12.24	146.7	2,778	82	2,680	11.8	
	C	16 W	2383	16.11	147.9	3,686	109	3,560	12.8	
	D	21 W	3058	21.20	144.3	4,731	140	4,570	13.7	
	E	28 W	3949	27.95	141.3	6,108	181	5,900	14.5	
TC1-R09-M1830 3000 K	B	12 W	1732	12.24	141.5	2,680	79	2,590	11.7	
	C	16 W	2299	16.11	142.7	3,556	105	3,430	12.7	
	D	21 W	2950	21.20	139.2	4,563	135	4,410	13.5	
	E	28 W	3809	27.95	136.3	5,892	174	5,690	14.4	
TC1-R09-M1827 2700 K	B	12 W	1657	12.24	135.4	2,563	76	2,480	11.5	
	C	16 W	2199	16.11	136.5	3,402	101	3,280	12.5	
	D	21 W	2822	21.20	133.1	4,365	129	4,220	13.4	
	E	28 W	3644	27.95	130.4	5,637	167	5,440	14.3	

Photometry Reports: 13694183.04 – 19
Due to continuous product improvements, specifications and dimensions are subject to change without notice.
Photometry baseline established with integrating sphere and goniophotometer results from an independent accredited testing laboratory per IES LM-79, ANSI 78.377. Remaining values scaled from baseline data. Output and power may vary by up to 5%.