

**2R** RECESSED

DATE

DIRECT

**PROJECT** 

COMMENTS









## **PRODUCT FEATURES**

## MINIMAL RECESSED HEIGHT

Width: 2.0" Height: 3.5"

## **ONE-PIECE EXTRUDED ALUMINUM HOUSING**

Housing ensures straighter rows and consistent lens retention

#### **MULTIPLE CEILING SYSTEMS**

Engineered to be installed in multiple grid systems or hard ceiling applications

#### 120/277VAC 0-10 VOLT DIMMING TO 1% STANDARD

UP TO 112.5 LUMENS PER WATT AT 90 CRI















## ORDERING GUIDE EX: 2R - 20 - HD - 30 - UNV - T1 - WH - C90

SERIES	LENGTH		OUT	PUT			ССТ	VC	LTAGE		MOL	INTIN	NG	F	NISH
2R															
	XX FT	VHD	1250 LM/FT	LD	500 LM/FT	30	3000K	UNV	120-277V	T1	1" T-Grid	sc	Screw Slot Grid	WH	White
	1' Increments EX: 20' = 20	HD	1000 LM/FT	VLD	250 LM/FT	35	3500K	347¹	347V	Т9	9/16" T-Grid	OF	Overlapping Flange	BLK	Black
ORDERING NOTES		MD	750 LM/FT	CD	Custom	40	4000K			TG	1" T-Teg Grid	SF	Spackle Flange		
EM NOT AVAILAB     EM AND SENSOR										TG9	9/16" T-Teg Grid				

- 2. EM AND SENSORS ARE NOT AVAILABLE WITH 2' AND 3' FIXTURES.
- FOR INDIVIDUAL FIXTURES, SENSOR LOCATED AT POWER FEED END. FOR RUNS, A SENSOR IS INSTALLED INTO EACH FIXTURE IN RUN, EX. 2 SENSORS ARE INSTALLED IN A 16' RUN (1 SENSOR IN EACH 8' FIXTURE).

## **OPTIONS**

CRI	INTEGRATED CONTROLS <sup>2, 3, 4</sup>	RATING	FOR INDIVIDUALS	FOR LINEAR RUNS <sup>5, 6</sup>
C90				EM
<b>C90</b> 90 CRI	DOS Daylight Occupancy Sensor	CP Chicago Plenum	EM <sup>2</sup> Emergency Battery	EMERGENCY QUANTITY POSITION BATTERY PACK PER RUN <sup>5</sup> IN RUN <sup>6</sup>
			<b>EC</b> Emergency Circuit	EC
OPTIONS NOTES				EMERGENCY QUANTITY POSITION CIRCUIT PER RUN <sup>5</sup> IN RUN <sup>6</sup>

- 4. CONSULT FACTORY FOR COMPONENT OR SYSTEM NOT 6. EM AND EC POSITION REFERS TO WHICH FIXTURE IN THE
- 5. EM AND EC QUANTITY IS NOT TO EXCEED NUMBER OF DISCRETE FIXTURE SECTIONS IN A ROW.
- RUN THAT WILL BE POWERED BY THE EM/EC CIRCUIT. POSITION OPTIONS: S=STARTER, J=JOINER, E=ENDER FX: 2R-20-HD-35-LINV-T1-WH-FM2S I

••• STARTER •••• IOINER FNDFR

## **PHOTOMETRICS**

#### 1641 2R-04-HD-35-UNV-XX-C90 **Zonal Lumen Summary** Zone Lumens % Fixt Total Lumens: 4,055 1231 0 - 30 1206.8 29.8 Ratio: 0% Up & 100% Down 820 0 - 40 1923.4 47.4 Wattage: 37.4 410 0 - 60 3247.4 80.1 Efficacy: 108.4 LM/W 0 - 90 4054.6 100.0 Fixture Length: Four Feet 90 - 180 0.2 0.0 410 0 - 180 4054.8 100.0 820 0-Deg -----1231 45-Deg -90-Deg -----1641

## **ENERGY CONSUMPTION** WATTS PER LINEAR FOOT

## **DIRECT (LAMBERTIAN) LIGHT AT 90 CRI, 3500K**

	VHD:1250	HD:1000	MD:/50	LD:500	VLD:250
W/FT	11.5	9.4	6.9	4.4	2.3
LM/FT	1262	1014	779	492	250
LM/W	109.7	108.4	112.5	111.8	108.7

## **LUMEN ADJUSTMENT CALCULATIONS**

LUMEN M	IULTIPLIER	Example: MD Output, 3000K at 90CRI			
3000K	0.995	Total Light Output: 3116 x 0.995 = 3100 lm  Total Light Output Per Foot: 779 x 0.995 = 775 lm/ft			
3500K	1.000	Efficacy = 775 / 6.9 = 112.3 lm/W			
4000K	1.023				





#### **OPERATION**

## **Light Engine:**

The 2R is available in 3000K, 3500K and 4000K CCT all within a 3-Step MacAdam Ellipse and has a standard CRI of 90+.

#### Optics

The back-lit extruded acrylic lens ensures high efficiency light output, in a minimal form factor for a clean, evenly illuminated surface with minimal glare.

#### **Electrical:**

Class 2 programmable (factory pre-set) premium power supply, 120-277VAC input. Power factor >0.9. THD <15%. Integral Surge Protection to 2KV.

## Dimming:

The 2R comes standard with 0-10V dimming to 1%. For DOS (Daylight/ Occupancy Sensor) ordering code, DALI driver required. Advance Xitanium SR, 1% dimming to be utilized.

## **Emergency Battery Pack:**

Emergency Battery Pack has been engineered to exceed UL minimum safety standards. Standard battery is CEC Listed. For most fixtures, the entire direct portion of the fixture will be illuminated by the EM Battery Pack. For 8' VHD, 10' HD and VHD, and 12' MD, HD, and VHD, only the first portion of the fixture will be illuminated by the EM battery pack. "Quantity per Run" refers to the number of fixtures in the run that will be supplied with an emergency battery pack. "Position in Run" refers to which fixture in the run that will contain the battery. Position options are Starter (S), Joiner (J), or Ender (E). For example, a 24' run needing two emergency battery packs, one in the starter and one in the joiner, would be ordered as EM2SJ. When a joiner is selected, battery packs are always supplied in 8' fixtures before 6' fixtures in that run.

## **Emergency Circuit:**

Emergency Circuit fixtures are engineered so that the entire fixture is wired to the emergency circuit. "Quantity per Run" refers to the number of fixtures in the run that are wired to the emergency circuit. "Position in Run" refers to which fixture in the run that will be powered by the Emergency Circuit. Position options are Starter (S), Joiner (J), or Ender (E). For example, a 24' needing two emergency sections, one in the starter and one in the joiner, would be ordered as EC2SJ. When a joiner is selected, Emergency Circuits are always supplied in 8' fixtures before 6' fixtures in that run.

## **MECHANICAL**

## **Housing Construction:**

Extruded Aluminum 6063-T5 alloy outer housing and LED tray with die-formed steel internal components for strength, alignment and mounting attachment. Our high-quality die-cast end caps are engineered to conceal all fasteners and to retain the sealing gaskets on the inside of the fixture while completing the clean and minimalistic look of this luminaire.

## Alignment/Assembly:

The alignment system employs a four-point alignment and attachment method, designed to create straighter rows and minimize seams between sections (field assembled). Four alignment pins ensure the outer extruded aluminum rails are aligned, while a draw-screw secures housing-to-housing attachment.

#### Lengths:

The 2R is available in a minimum 2-foot (nominal) length with additional 1-foot increments available ( $\pm 0.030$ ",  $\pm 0.50$ °). Longer fixture rows are available and will be configured with 4-foot, 5-foot, 6-foot, 7-foot, and 8-foot fixtures. Maximum run length on one power feed is 72'. Continuous runs over 72' will require a second feed.

## Mounting Method/Hardware:

The 2R is designed for lay-in grid ceilings or "Hard" sheet rock construction. Hard ceiling installations can be supplied for overlapping flange or "Trimless" spackle flange types.

#### **Exterior Finish:**

The 2R is available in White and Black polyester powder coat finish to ensure durability.

## **Integrated Controls:**

The 2R is available with optional integrated controls. Sensors are conveniently designed to mount in aperture and are located at the power feed end of each fixture. For runs, each fixture section will be supplied with a discrete sensor that will control that specific section. Philips EasySense is standard daylight/occupancy sensor. DALI driver required. If your project requires a component or system not listed, please contact your local American Linear Lighting representative.

MANUFACTURER	ORDERING CODE	SENSOR	CONNECTION	DRIVER
Philips EasySense	DOS	Daylight/PIR Occupancy	Wireless	DALI (Advanced Xitanium SR, 1% Dimming)

## **GENERAL**

## Warranty:

Ten (10) Year limited warranty from date of shipment.

## Lumen Maintenance:

Rated for 85% initial lumen output at 90,000 Hours of operation, operated at 25°C ambient temperature; per TM-21 Guidelines published by the Illuminating Engineering Society (IES).

## **Certifications:**

All Luminaires are UL/cUL Listed to UL 1598 Standards and approved for Indoor use in Dry/Damp Locations. Luminaires are IC rated.

## Shipping:

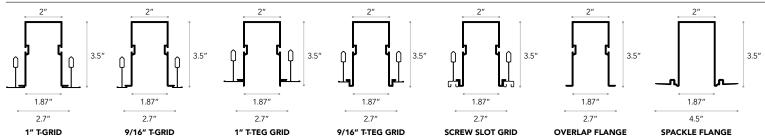
2 week lead time for White (WH) or Black (BLK) finish orders up to 1000 linear feet.

Lead time for orders greater than 1000 linear feet will be determined at time of order.

## Manufactured in the USA:

All ALL Luminaires and Components (with the exception of our LED boards and drivers) are proudly manufactured and assembled in the USA.

## MOUNTING DETAILS

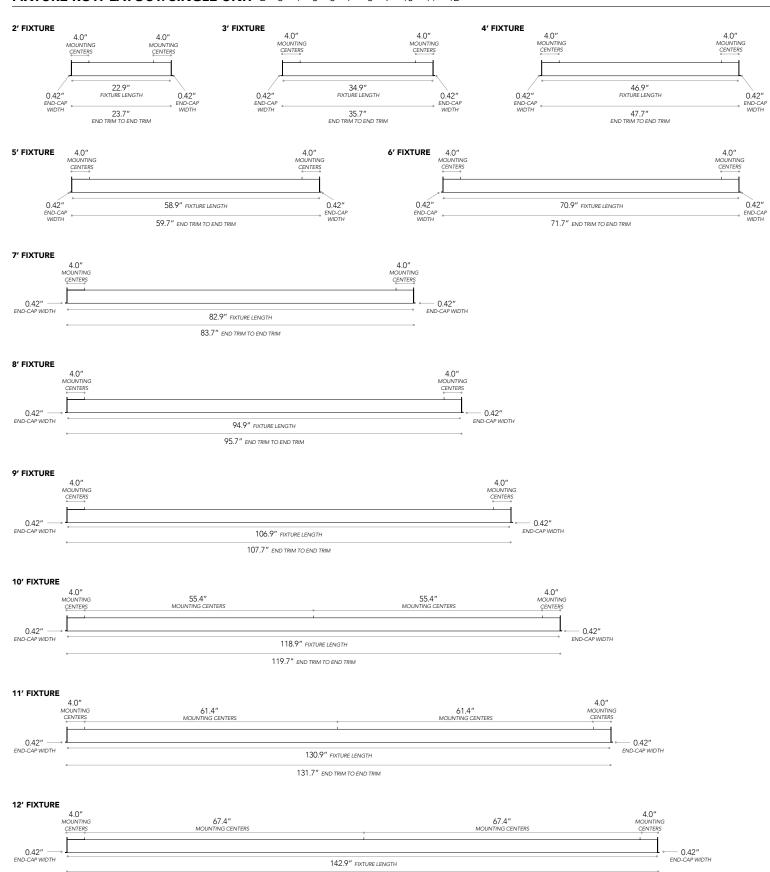








## **FIXTURE ROW LAYOUT: SINGLE UNIT** 2' - 3' - 4' - 5' - 6' - 7' - 8' - 9' - 10' - 11' - 12'



143.7" END TRIM TO END TRIM

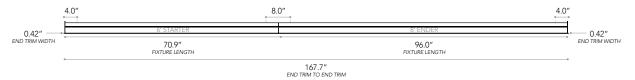




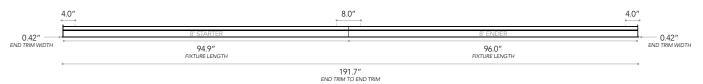


## FIXTURE ROW LAYOUT: TWO UNITS 14' - 16'

#### 14' FIXTURE



#### 16' FIXTURE



## FIXTURE ROW LAYOUT: THREE UNITS 18' - 20' - 22' - 24'

## 18' FIXTURE



## 20' FIXTURE



## 22' FIXTURE



## 24' FIXTURE









# **FIXTURE ROW COMPONENTS**

RUN LENGTH	FIXTURE LENGTHS UN LENGTH STARTER JOINER								ENDER	JOINER KITS	CEILING CUT OUT LENGTH	
KON LENGTH	1	2	3	4	5	6	7	8	9	JOINER KITS	CEILING COT COT LENG	
13'	5'	-		-	-	-		-	8'	1	155.25"	
14'	6'		-	-	-	-		_	8'	1	167.25"	
15'	7'						-				179.25"	
		-	-	-	-	-	-	-	8'	1		
16'	8′	-	-	-	-	-	-	-	8'	11	191.25"	
17′	3′	6′	-	-	-	-	-	-	8′	2	203.25"	
18′	4′	6′	-	-	-	-	-	-	8′	2	215.25"	
19′	5′	6′	-	-	-	-	-	-	8′	2	227.25"	
20′	4′	8′	-	-	-	-	-	-	8′	2	239.25"	
21′	5′	8′	-	-	-	-	-	-	8′	2	251.25"	
22′	6'	8′	-	-	-	-	-	-	8′	2	263.25"	
23'	7'	8′	-	-	-	-	-	-	8'	2	275.25"	
24'	8'	8′	-	-	-	-	-	-	8′	2	287.25"	
25′	5'	6′	6'	_	-	-	-	-	8'	3	299.25"	
26′	4'	6′	8′	_	_	_	_	_	8'	3	311.25"	
27′	5'	6′	8′	_	_	_	_	_	8′	3	323.25"	
28'	4'	8′	8'	_	_	_	_	_	8'	3	335.25"	
29'	5'	8′	8'	-	-		-	-	8'	3	347.25"	
	6'	8′		-		-	-		8'		359.25"	
30′			8'	-	-	-	-	-		3		
31′	7'	8′	8′	-	-	-	-	-	8′	3	371.25"	
32′	8′	8′	8′	-	-	-	-	-	8′	3	383.25"	
33′	5′	6′	6'	8′	-	-	-	-	8′	4	395.25"	
34'	4'	6′	8′	8′	-	-	-	-	8'	4	407.25"	
35′	5'	6'	8′	8′	-	-	-	-	8'	4	419.25"	
36′	4'	8′	8′	8′	-	-	-	-	8′	4	431.25"	
37′	5′	8′	8′	8′	-	-	-	-	8′	4	443.25"	
38′	6'	8′	8′	8′	-	-	-	-	8'	4	455.25"	
39'	7'	8′	8′	8′	-	-	-	-	8'	4	467.25"	
40'	8'	8′	8'	8′	-	-	-	-	8'	4	479.25"	
41′	5'	6′	6'	8′	8′				8'	5	491.25"	
42'	4'	6′	8′	8′	8′	_	_	_	8′	5	503.25"	
43'	5′	6′	8′	8′	8′				8′	5	515.25"	
44'	4'	8′	8'	8′	8′	_	_	-	8'	5	527.25"	
45'	5	8′	8'	8′	8′	_		_	8'	5	539.25"	
46'	6'	8′	8'	8'	8′	_	_	_	8'	5	551.25"	
						-	-	-				
47′	7'	8′	8'	8′	8′				8'	5	563.25"	
48′	8′	8′	8′	8′	8′	-	-	-	8′	5	575.25"	
49'	5′	6′	6'	8′	8′	8′			8′	6	587.25"	
50′	4'	6′	8′	8′	8′	8′	-	-	8′	6	599.25"	
51′	5′	6'	8′	8′	8′	8′			8'	6	611.25"	
52'	4'	8′	8′	8′	8′	8′	-	-	8'	6	623.25"	
53′	5′	8′	8′	8′	8′	8′			8'	6	635.25"	
54'	6'	8′	8′	8′	8′	8′	-	-	8'	6	647.25"	
55'	7'	8′	8′	8′	8′	8′			8′	6	659.25"	
56′	8'	8′	8′	8′	8′	8′	-	-	8'	6	671.25"	
57′	5'	6′	6'	8′	8′	8′	8′		8'	7	683.25"	
58′	4'	6′	8′	8′	8′	8′	8′	_	8′	7	695.25"	
59'	5'	6′	8′	8′	8′	8'	8′		8'	7	707.25"	
	4'	8′	8'	8′	8′	8′	8′		8'	7		
60′ 61′	5'	8′	8'	8	8	8	8	-	8'	7	719.25" 731.25"	
62'	6′	8′	8'	8′	8′	8′	8′	-	8'	7	743.25"	
63'	7'	8′	8'	8′	8′	8'	8′		8'	7	755.25"	
64'	8′	8′	8′	8′	8′	8′	8′	-	8′	7	767.25"	
65'	5′	6′	6′	8′	8′	8′	8′	8′	8′	8	779.25"	
66′	4'	6′	8′	8′	8′	8′	8′	8′	8′	8	791.25"	
67′	5′	6′	8′	8′	8′	8′	8′	8′	8′	8	803.25"	
68'	4'	8′	8′	8′	8′	8′	8′	8′	8′	8	815.25"	
69'	5′	8′	8'	8′	8′	8′	8′	8′	8′	8	827.25"	
70′	6'	8′	8′	8′	8′	8′	8′	8′	8'	8	839.25"	
71′	7'	8′	8′	8′	8′	8′	8′	8'	8'	8	851.25"	
71	8'	8′	8'	8'	8′	8′	8′	8'	8'	8	863.25"	

	FIXTURE LENGTH							
	STARTER	JOINER/ENDER						
3′	34.9"	36.0"						
4′	46.9"	48.0"						
5′	58.9"	60.0"						
6′	70.9"	72.0"						
7′	82.9	84.0"						
۵,	04.0"	94 O"						

0.42" END TRIM WIDTH	1							0.42" END TRIM WIDTH
000	STARTER	000	0	JOINER	000	0	ENDER	000
F	IXTURE LENGTH	ı		FIXTURE LENGTH			FIXTURE LENG	TH

OVERLAPPING FLANGE CEILING	SPACKLE FLANGE CEILING
CUT OUT WIDTH	CUT OUT WIDTH
2.4"	4.05#