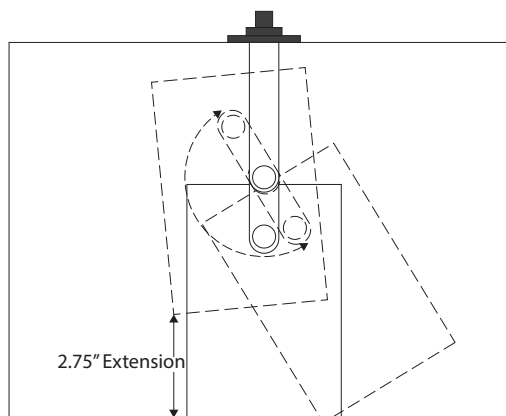
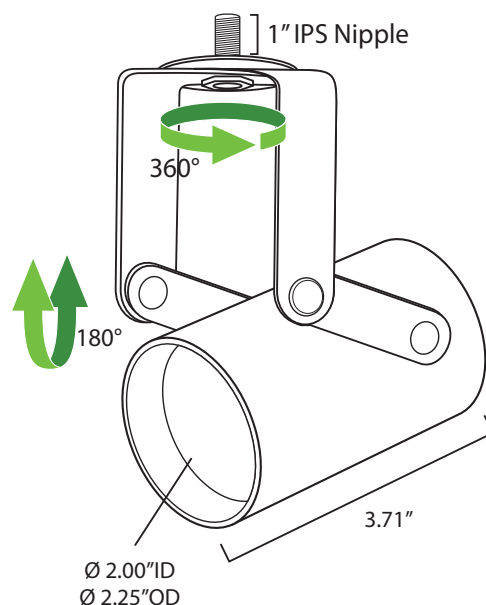


RET-413-PAR16-ADJ

Adjustable Recessed Hardwire Remote Transformer

Project Name:		Type:	
Catalog Number:		Date:	

**Key Features**

- Easily upgrade existing fixtures
- No disruption to ceiling
- Replace existing CMH or Halogen optics
- Replace 1, 2, 3, or 4 lamp multiple optics
- Replace continuous slot optics
- Universal 5/8" threaded nipple mount
- New optic mounts into same mounting hole
- Remote LED Driver
- Double jointed adjustable bracket
- 2"+ vertical optical adjustment
- **See Page 3 for additional mounting options**

LED Source Details

CREE XPL LED maximum rating = 3,000mA

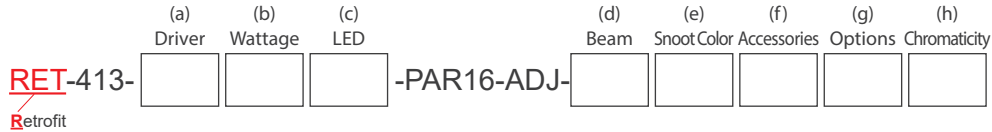
- Fixture operating milliamp range = 450mA to 1150mA.
- Operating 15% to 38% of rated value
- Fixture wattage range = 8W to 20W
- Fixture delivered lumens = 700 to 1,300 lumens

Last revised: 09/11/2025

RET-413-PAR16-ADJ

Adjustable Recessed Hardwire Remote Transformer

Project Name:		Type:	
Catalog Number:		Date:	

**(a) Driver Options**

E	= ON/OFF (Electronic)
D*	= MLV Forward Phase .1% Dimming (2 wire)
ED	= Electronic Forward and Reverse Phase Dimming 1% (2 wire)
0-10V**	= 1% 4 wire Dimming
DALI2**	= 1% 4 wire Dimming
0-10V MRI***	= 0-10V Dimming with 100bd Filter
RDM DMX	= 16 Bit, 4 Channel (2 wire with CAT5)
ABS	= Non DMX 32 bit Absolute Light .001% RGBW dimming
ABSX	= DMX 32 bit Absolute Light .001% RGBW dimming

Solar, Wind or DC Battery Powered (no inverter) or ETC F- Drive
DC24V = .01% PWM DC (solar & wind) (2 wire)

*MLV power supply is intended for use with forward phase SCR or Triac dimmers.

**Remote 0-10V or DALI LED driver operates up to 4 fixtures up to 18' away 18ga and 100' away 12ga

***Operates up to 4 recessed LED light fixtures for MRI room installation with remote LED driver

(b) Wattage Options

8W (520 Lumens)	= ON/OFF, 0-10V 1%
9W (520 Lumens)	= MLV <1% Dimming
12W (800 Lumens)	= ON/OFF, 0-10V 1%, ED
14W (800 Lumens)	= MLV <1% Dimming
16W (1100 Lumens)	= ON/OFF, 0-10V 1%, ED
17W (1100 Lumens)	= MLV <1% Dimming
18W (900 Lumens)	= Absolute Light RGBW
19W (1300 Lumens)	= DMX Dimming
20W (1300 Lumens)	= ON/OFF, 0-10V 1%, ED

(c) LED Type Options

XLED	= Cree XPL2 LED @ All Wattages
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(d) Beam Options

NSP	= Narrow Spot	NFL	= Narrow Flood
SP	= Spot	FL	= Flood

(e) Snoot Color Options

BLKS	= Black Snoot
WHTS	= White Snoot
PWTS	= Pewter Snoot

(j) Optical and Accessory Options

LS	= Lens Softener - +20% increase in beam width. Shields optical face visually. Softens edges of beam.	
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LSL	= Linear Spread Lens - Horizontal or vertical beam elongation.	
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WFL	= Wide Flood Lens - Wall washing increases the beam by 50% width with elimination of center beam.	
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LV	= Louver - Small black hexcel louver eliminates all surface brightness. Creates stronger vertical cut off with -20% beam width.	
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CHL	= Cross Hair Louver	
-----	---------------------	--

H	= Halogen - 100K warmer from 2700k to 2600K	
DHF	= Dimmed Halogen Film - 300K warmer from 2700K to 2400K color	
DH	= Dimmed Halogen - 400K warmer from 2700k to 2300K	

(g) Options

120V	= 120VAC 60Hz (Standard)
230V	= 230VAC 50Hz (Used in conjunction with 230V track)
277V	= 277VAC 60Hz (Used in conjunction with 277V track)
347V	= 347VAC 60Hz
RMT2	= Operate 2 Optics with Single 0-10V, ON/OFF LED Driver
RMT3	= Operate 3 Optics with Single 0-10V, ON/OFF LED Driver
EMG	= 90 minute emergency battery backup
80+	= CRI over 80
90+	= CRI over 90

(h) Color Temperature Options**White LED**

22K*	= 2200 Kelvin (candlelight color)
27K	= 2700 Kelvin (incandescent color)
30K	= 3000 Kelvin (halogen color)
35K	= 3500 Kelvin (warm incandescent)
40K	= 4000 Kelvin (cool incandescent)
50K	= 5000 Kelvin (day white)
65K	= 6500 Kelvin (12 noon sunlight)

Colored/Themed LED

UV365†	= 365 NM UV black light
UV390	= 390 NM UV black light
Blue	= 465 - 485 NM wavelength
Green	= 520 - 535 NM wavelength
Amber	= 585 - 595 NM wavelength
Red	= 620 - 630 NM wavelength
RGBW3K**	= Red, Green, Blue, White
RGBW4K**	= Red, Green, Blue, White

*1050 mA or less

†Special Order

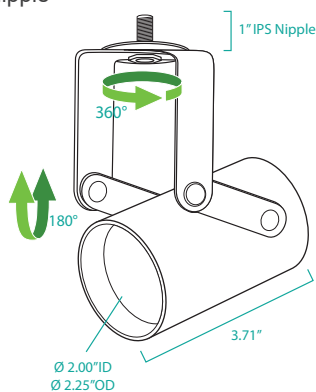
**Must utilize DMX or Absolute Light

RET-413-PAR16-ADJ

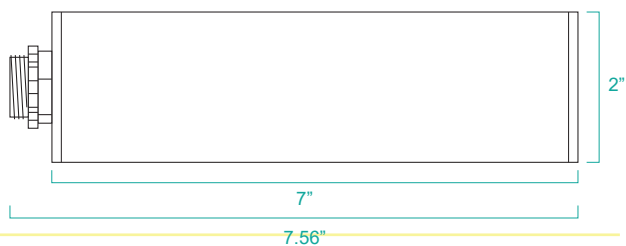
Adjustable Recessed Hardwire Remote Transformer

Project Name:		Type:	
Catalog Number:		Date:	

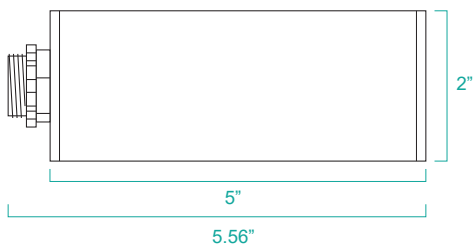
1.00" IPS Nipple



On/Off, 0-10V, & ELV Driver



MLV Driver

**Electrical**

- Optional - 12V AC remote class 2
- 100V, 120V, 230V, 277V or 347V

LED

- 3,000mA maximum rated CREE XPL2 LED
- Operates between 450 to 1200mA
- 15% to 40% of rated mA

LED Driver

- D – 2 wire forward phase .01% LED driver fade to off glow to on
- ED – 2 wire reverse phase 1% LED driver
- DC – 12V or 24V

Optics

- TIR discrete injection molded polycarbonate precision LED optic
- 45-degree vertical cut off

Installation

- IPS Nipple - Unistrut (Not provided)

Certification

- UL Damp Listed – IP 52

Warranty

- 5 Year – ED, 0-10V, DMX and colored LED fixtures
- 7 Year – D and White LED fixtures

RET-413-PAR16-ADJ

Adjustable Recessed Hardwire Remote Transformer

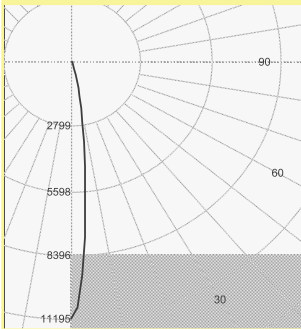
Project Name:		Type:	
Catalog Number:		Date:	

Narrow Narrow Spot 8.5°

3.3'	1,028 fc	0.5'
6.7'	249 fc	1.0'
10'	112 fc	1.5'
13.3'	63.3 fc	2.0'
16.7'	40.1 fc	2.5'
20'	28 fc	3.0'
26.7'	15.7 fc	4.0'
33.3'	10.1 fc	5.0'
40'	7 fc	6.0'

20W PAR16 - 472 lm
11,195 CBCP**Zonal Flux and Percentages**

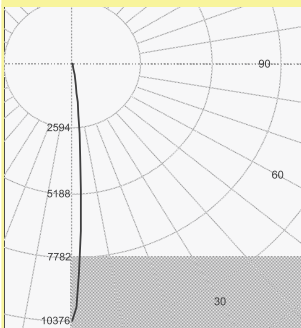
Zone	Flux (lm)	%Luminaire
0-30	460	97.5
0-40	467	99.0
0-60	472	100.0
0-90	472	100.0
40-70	5	1.0
60-80	0	0.0
90-180	0	0.0
0-180	472	100.0

All planes - Solid (cd)

(Rotational Symmetry)

Narrow Narrow Spot 7.9° (with Louver)

3.3'	953 fc	0.5'
6.7'	231 fc	0.9'
10'	104 fc	1.4'
13.3'	58.7 fc	1.8'
16.7'	37.2 fc	2.3'
20'	25.9 fc	2.8'
26.7'	14.6 fc	3.7'
33.3'	9.36 fc	4.6'
40'	6.48 fc	5.5'

20W PAR16 - 382 lm
10,376 CBCP**All planes - Solid (cd)**

(Rotational Symmetry)

Wattage & Lumen Output

450 Milliamps - 520 Lumens		700 Milliamps - 800 Lumens	
8W	ON/OFF	12W	ON/OFF
	0-10V 1% Dimming		0-10V 1% Dimming
9W	MLV <1% Dimming		ELV 10% Dimming
		14W	MLV <1% Dimming
			ELV 10% Dimming
1000 Milliamps - 1100 Lumens		1150 Milliamps - 1300 Lumens	
16W	ON/OFF	20W	ON/OFF
	0-10V 1% Dimming		0-10V 1% Dimming
	ELV 10% Dimming		ELV 10% Dimming
	MLV <1% Dimming		
17W	Lutron 1% Dimming		
19W	DMX .33% Dimming		

3 Step CREE XPL2 LED

Kelvin-CRI	Multiplier
27K-80+ CRI	1
27K-90+ CRI	0.80
30K-80+ CRI	1
30K-90+ CRI	0.85
35K-80+ CRI	105
35K-90+ CRI	0.9
40K-80+ CRI	109
50K-80+ CRI	109
65K-80+ CRI	105
80+ = 84 CRI	
90+ = 94 CRI	

RGBW V2 Light Output Luminous Flux
Clarté Lighting offers 100% of fixtures in optional RGBW3K or RGBW4K

	700 mA	700 mA
	RGBW3K	White 3K
Red	480	
Green	930	
Blue	138	
White	780	
Total	2328	844

*RGBW Fixtures are designed to not operate with all 4 colors at 100% of light for more than 24hrs continuously and suggest operating 55% or less of all 4 colors ON to ensure optimum thermal life of the RGBW LED.

Narrow Spot 12°

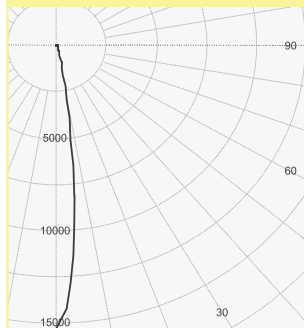
2'	3,824 fc	0.4'
4'	956 fc	0.9'
6'	425 fc	1.3'
8'	239 fc	1.8'
10'	153 fc	2.2'
12'	106 fc	2.7'
20'	28 fc	5.2'
26'	16 fc	7.0'
33'	10 fc	8.7'
40'	7 fc	10.5'

20W PAR16 - 1,100 lm
15,296 CBCP**Intensity Summary (cd)**

Gamma	All Planes	Flux (lm)
0	15296	
5	9739	696
10	2978	
15	676	236
20	229	
25	135	64
30	90	
35	67	43
40	53	
45	46	35
50	34	
55	23	21
60	15	
65	2	4
70	1	
75	0	0
80	0	
85	0	0
90	0	

Zonal Flux and Percentages

Zone	Flux (lm)	%Luminaire
0-30	997	90.6
0-40	1040	94.6
0-60	1096	99.6
0-90	1100	100.0
40-90	60	5.4
60-90	4	0.4
90-180	0	0.0
0-180	1100	100.0

All planes - Solid (cd)

(Rotational Symmetry)

Spot 19°

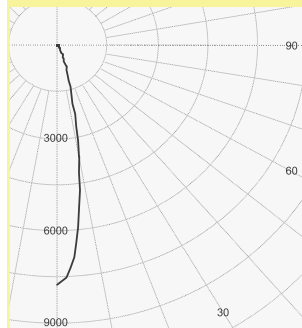
2'	1,939 fc	0.7'
4'	485 fc	1.4'
6'	215 fc	2.0'
8'	121 fc	2.7'
10'	78 fc	3.4'
12'	54 fc	4.1'
20'	28 fc	6.1'
26'	16 fc	8.1'
33'	10 fc	10.1'
40'	7 fc	12.1'

20W PAR16 - 1,313 lm
7,757 CBCP**Intensity Summary (cd)**

Gamma	All Planes	Flux (lm)
0	7757	
5	6432	519
10	3640	
15	1648	475
20	731	
25	336	166
30	176	
35	110	71
40	77	
45	67	50
50	47	
55	29	26
60	15	
65	3	5
70	1	
75	0	1
80	0	
85	0	0
90	0	

Zonal Flux and Percentages

Zone	Flux (lm)	%Luminaire
0-30	1160	88.3
0-40	1231	93.8
0-60	1308	99.6
0-90	1313	100.0
40-90	82	6.2
60-90	5	0.4
90-180	0	0.0
0-180	1313	100.0

All planes - Solid (cd)

(Rotational Symmetry)

Narrow Flood 24°

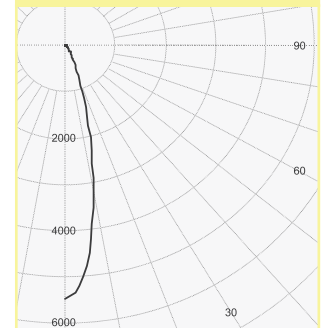
2'	1,705 fc	0.7'
4'	426 fc	1.4'
6'	189 fc	2.1'
8'	107 fc	2.8'
10'	68 fc	3.5'
12'	47 fc	4.3'
20'	17 fc	7.5'
26'	10 fc	10.0'
33'	6 fc	12.4'
40'	5 fc	14.9'

20W PAR16 - 1,306 lm
5,478 CBCP**Intensity Summary (cd)**

Gamma	All Planes	Flux (lm)
0	5478	
5	4774	404
10	3229	
15	1800	500
20	905	
25	452	219
30	244	
35	146	95
40	98	
45	75	57
50	47	
55	25	25
60	15	
65	3	5
70	1	
75	1	1
80	0	
85	0	0
90	0	

Zonal Flux and Percentages

Zone	Flux (lm)	%Luminaire
0-30	1123	86.0
0-40	1219	93.3
0-60	1301	99.6
0-90	1306	100.0
40-90	88	6.7
60-90	6	0.4
90-180	0	0.0
0-180	1306	100.0

All planes - Solid (cd)

(Rotational Symmetry)

Clarté Lighting

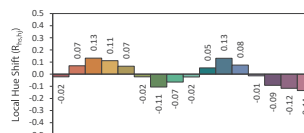
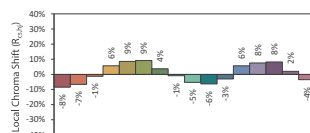
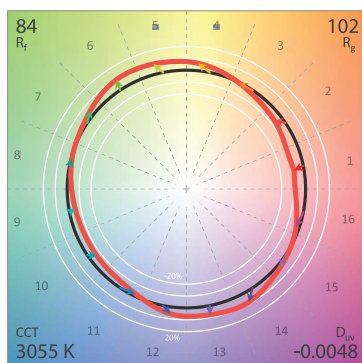
RET-413-PAR16-ADJ

Adjustable Recessed Hardwire Remote Transformer

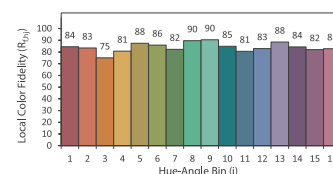
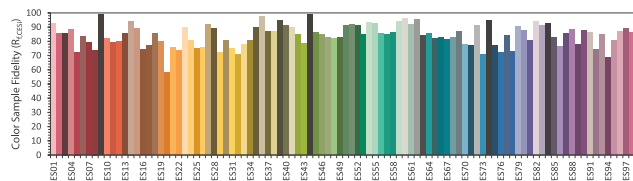
TM-30-18 Color Metrics

Project Name:		Type:	
Catalog Number:		Date:	

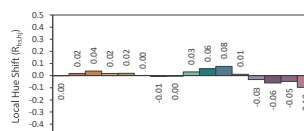
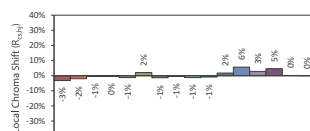
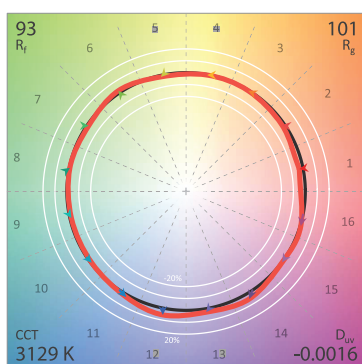
Clarté Lighting 3000K 80+ CRI Color Metrics



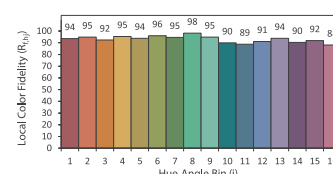
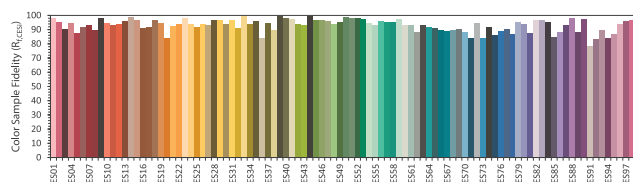
CIE 13.3-1995 (CRI)
R _a 86
R ₉ 29



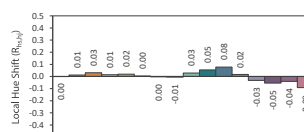
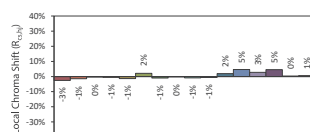
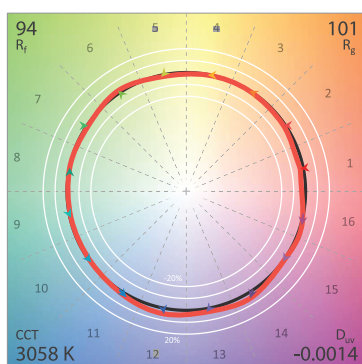
Clarté Lighting 3000K 90+ CRI Color Metrics



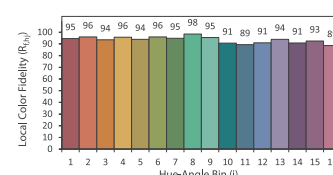
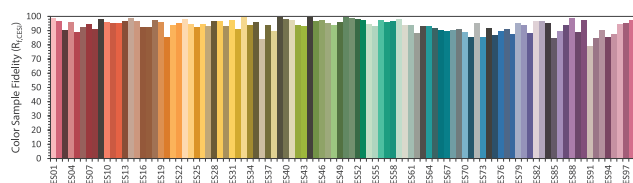
CIE 13.3-1995 (CRI)
R _a 95
R ₉ 74



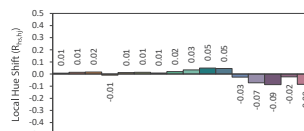
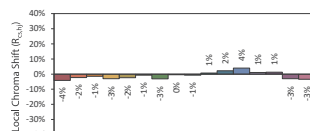
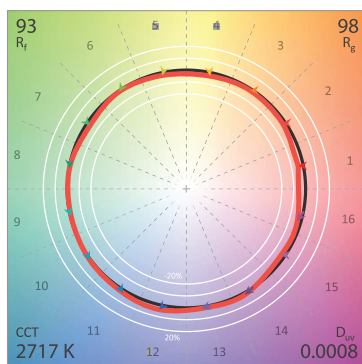
Clarté Lighting 3000K 90+ CRI Halogen Lens (H) Color Metrics



CIE 13.3-1995 (CRI)
R _a 96
R ₉ 79



Clarté Lighting 3000K 90+ CRI Dimmed Halogen Lens (DH) Color Metrics



CIE 13.3-1995 (CRI)
R _a 95
R ₉ 64

