



ETC Application Guide

Designing Color Stage Washes and
Border Light Replacement



Best Practice Application Guide
using Selador Series Paletta, Vivid-R,
Vivid FIRE and Vivid ICE

selador series
by ETC

Why Selador

ETC's Selador Fixtures provide many ways to wash a stage in colored light using less electrical energy. LED technology means lower HVAC costs due to lower heat and removes the need for maintenance and material costs to replace lamps and color media. Additionally, the traditional Red – Green - Blue fixture method provides only a limited color palette. Selador's x7 Color System gives the lighting designer an entire swatch book of colors for the stage.

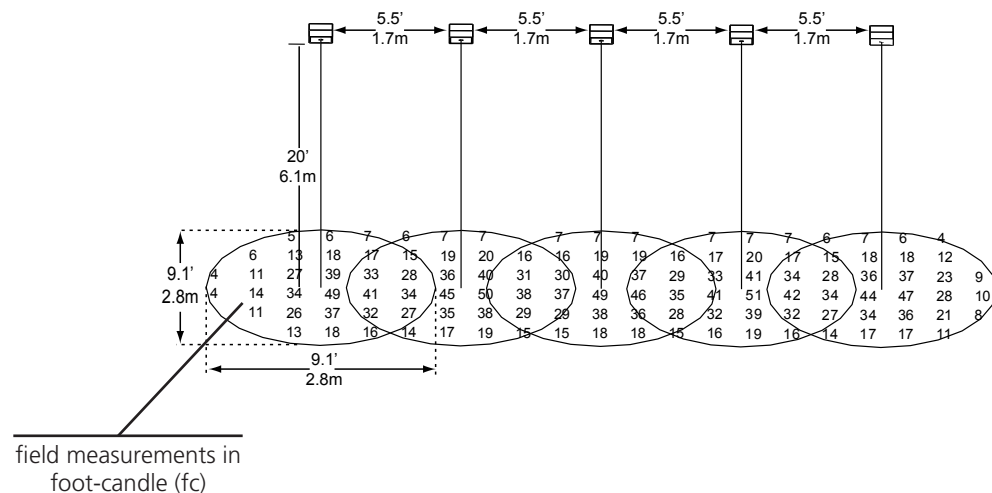
Overview

This is a best practice guide for replacing border lights in existing applications. This is also a guide for creating stage washes in new applications.

This guide describes the suggested placement of Selador series LED fixtures to wash stages in colored light. For white light washes, it is suggested that an ETC PAR is added to the wash.

The following wash suggestions utilize mounting heights of 20 feet for the Paletta and 20 and 30 feet for the Vivid line of fixtures. Many other combinations are possible, especially utilizing the secondary lens options for the Selador series.

Illumination represented in the graphics throughout this document are foot candles (fc) at the specified throw and distance between fixtures. One foot-candle (fc) $\approx$ 10.764 lux.

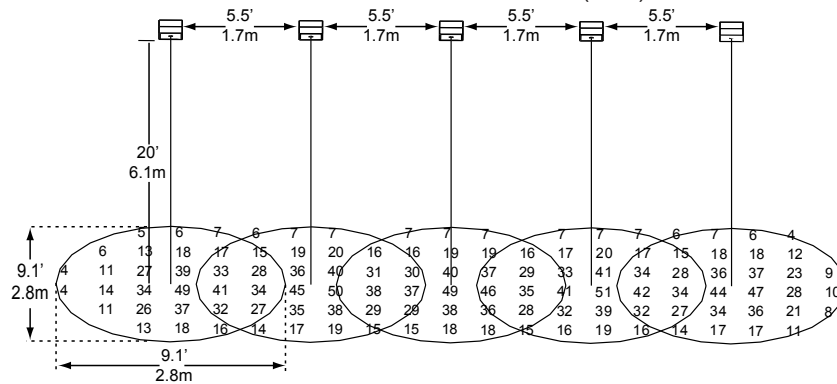


All foot-candle readings are given in white light. Selador series LED fixtures are most effective and efficient in colored light, therefore are most often brighter than an incandescent fixture that has been gelled.

Designing a stage wash with a Selador Paletta utilizing a 20' (6.1m) trim height

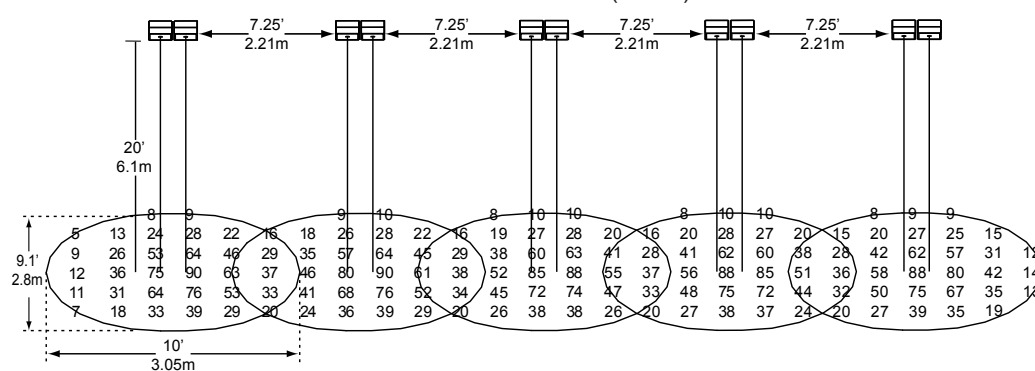
paletta™

Good Performance...with Paletta-11" on 5.5' (1.7m) centers



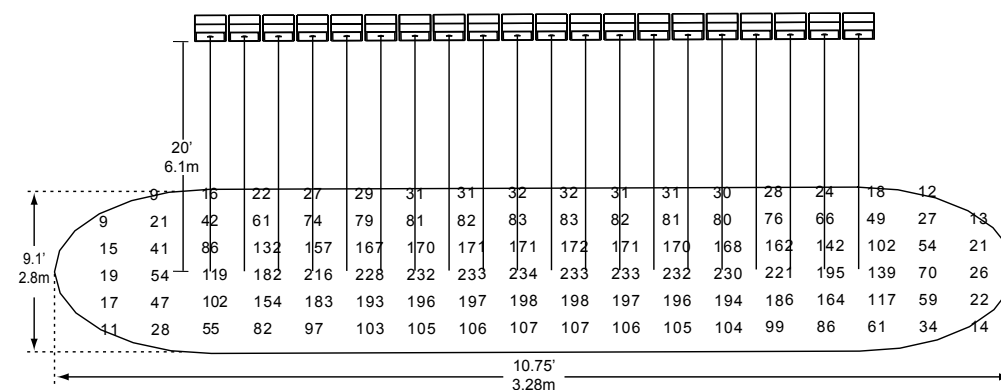
This outperforms traditional color washes. When value engineering is a must!

Better Performance...with Paletta-21" on 7.25' (2.21m) centers



Add a Source Four® Par™ for white light and great hybrid stage performance!

Best Performance...with Paletta-42" end to end



Unmatched stage washes with a value Paletta package.

Reference Product

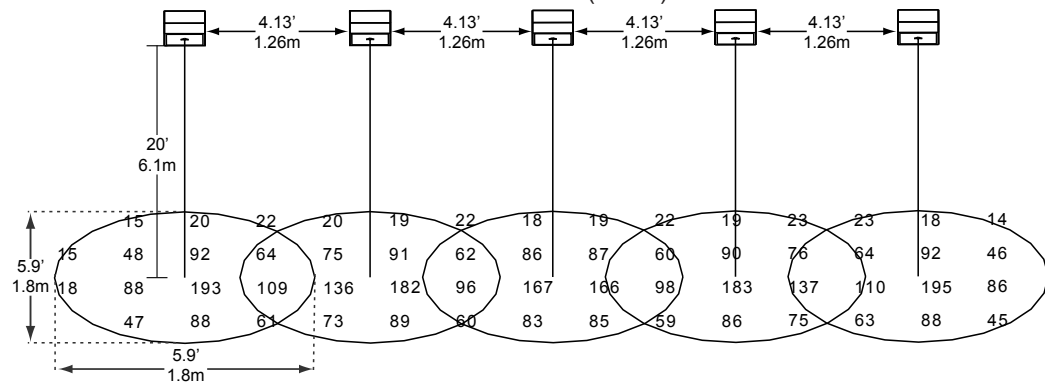
Color	Transmission %	30' R40 Strip Light			Selador - 6 cell	
		fc at 20'	fc at 30'	Total Watts used	fc at 20'	Total Watts used
Gam 245 Light Red	13	28	18	2,550	40	840
Apollo AP300 Green	4.4	9	6	2,550	108	1140
Roscolux 80 Primary Blue	13	17	11	2,400	78	1280
Open White	100	213	141	7,500	189	3,750
WRGB	100/13/4.4/8	67	44	7,500		3,750

VIVID-R

Designing a stage wash with a Selador Vivid-R utilizing a 20' (6.1m) trim height

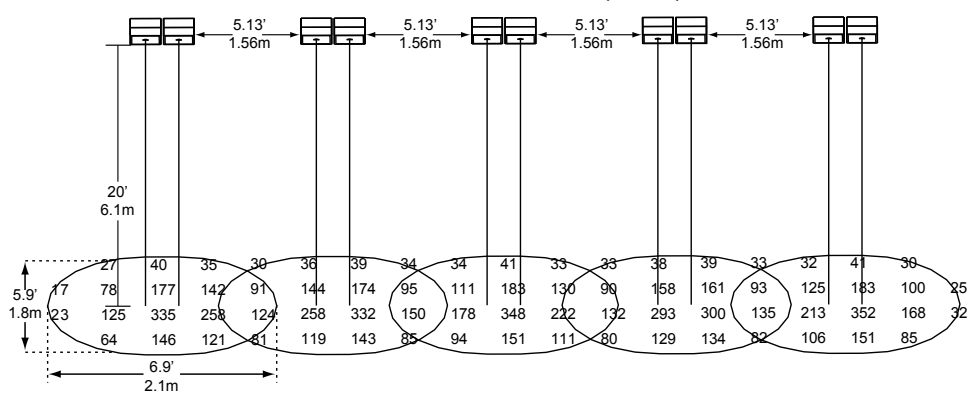
Low power consumption,
great color!

Good Performance...with Vivid-R-11" on 4.13' (1.26m) centers



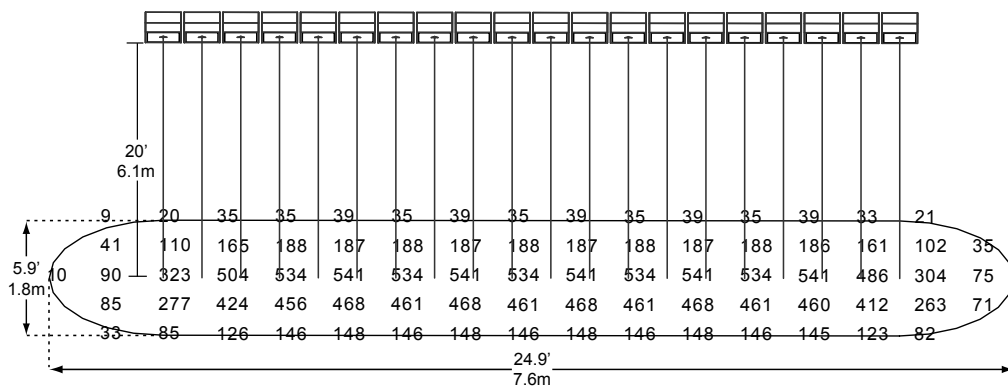
When just a little
more intensity is
just the ticket!

Better Performance...with Vivid-R-21" on 5.13' (1.56m) centers



Unparalleled
color washes!

Best Performance...with Vivid-R-42" end to end



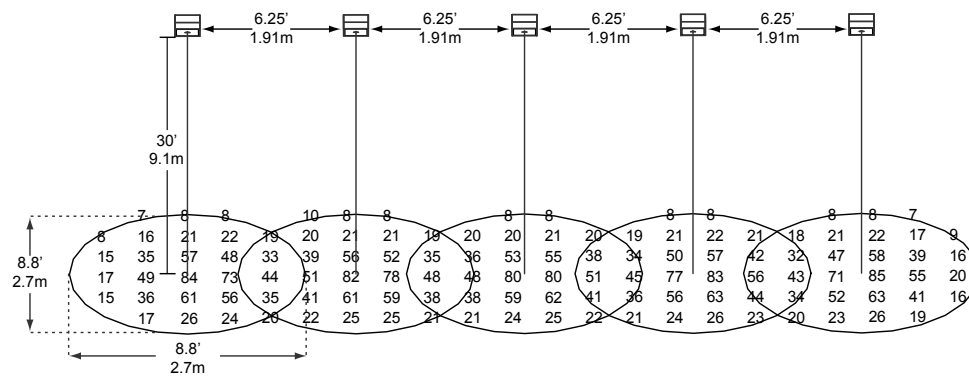
Reference Product

Color	Transmission %	30' R40 Strip Light			Selador - 6 cell		
		fc at 20'	fc at 30'	Total Watts used	fc at 20'	fc at 30'	Total Watts used
Gam 245 Light Red	13	28	18	2,550	180	121	1415
Apollo AP300 Green	4.4	9	6	2,550	263	177	1525
Roscolux 80 Primary Blue	13	17	11	2,400	188	127	1490
Open White	100	213	141	7,500	590	397	3,750
WRGB	100/13/4.4/8	67	44	7,500			3,750

Designing a stage wash with a Selador Vivid-R utilizing a 30' (9.1m) trim height

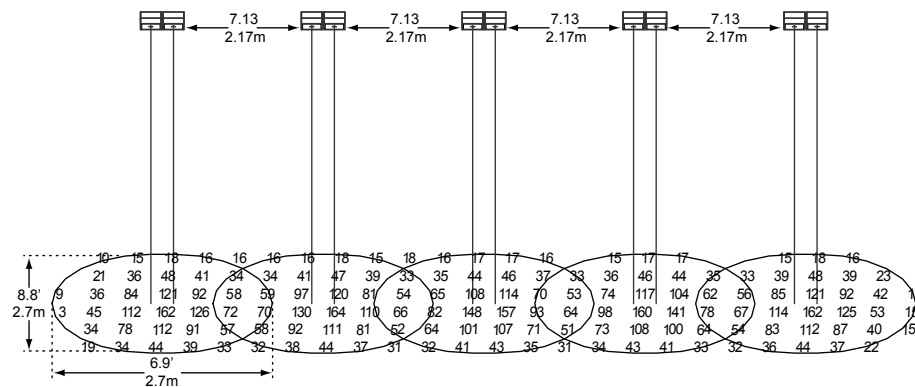
VIVID-R

Good Performance...with Vivid-R-11" on 6.25' (1.91m) centers



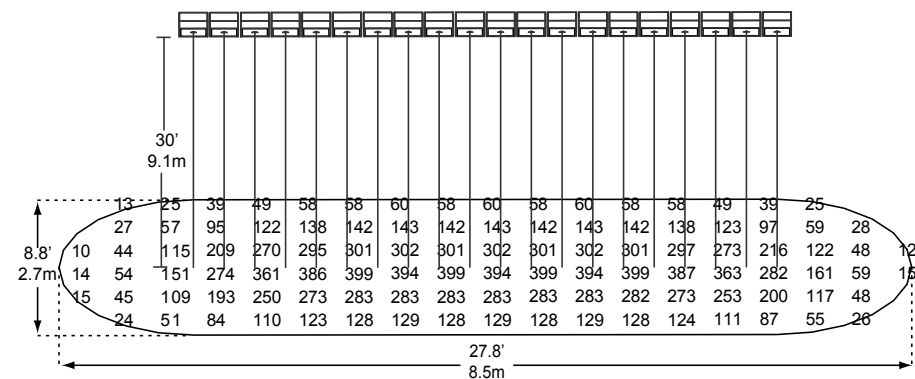
Low power consumption, great color!

Better Performance...with Vivid-R-21" on 7.13' (2.17m) centers



When just a little more intensity is just the ticket!

Best Performance...with Vivid-R-42" end to end



Unparalleled color washes!

Reference Product

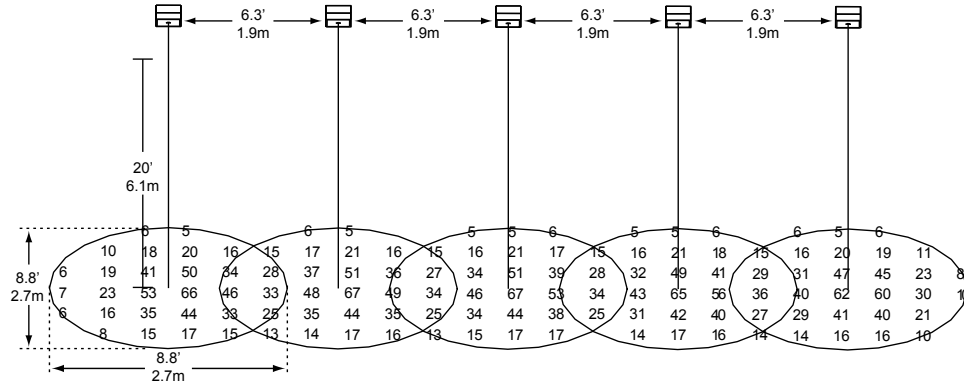
Color	Transmission %	30' R40 Strip Light			Selador - 6 cell		
		fc at 20'	fc at 30'	Total Watts used	fc at 20'	fc at 30'	Total Watts used
Gam 245 Light Red	13	28	18	2,550	180	121	1415
Apollo AP300 Green	4.4	9	6	2,550	263	177	1525
Roscolux 80 Primary Blue	13	17	11	2,400	188	127	1490
Open White	100	213	141	7,500	590	397	3,750
WRGB	100/13/4.4/8	67	44	7,500			3,750



Designing a stage wash with a Selador Vivid FIRE utilizing a 20' (6.1m) trim height

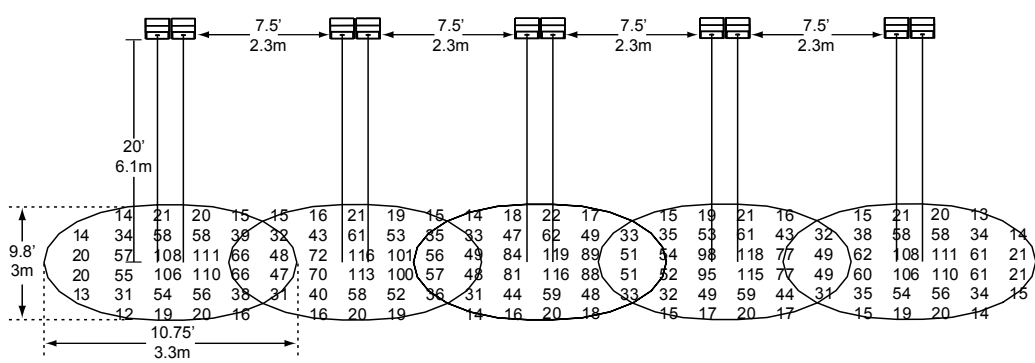
Warm up your stage in every hue.

Good Performance...with Vivid Fire-11" on 6.3' (1.9m) Centers



When you need the burning of Atlanta, or Hell Fire!

Potent Performance...with Vivid Fire-21" on 7.5' (2.3m) Centers



US Reference Product

Light output comparison

To equal the brightness of one Vivid Fire you would need



1.5 PARs in Roscolux R45 Rose



2.5 PARs in Roscolux R49 Lt. Rose Purple



2.5 PARs in Roscolux R27 Med. Red



To equal the brightness of one Vivid Ice you would need



2.5 PARs in Roscolux R68 Sky Blue



8.5 PARs in Roscolux R83 Med. Blue



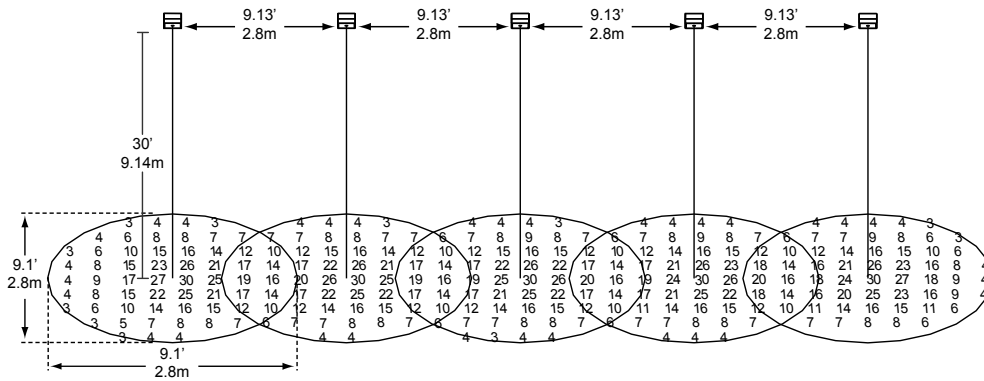
16 PARs in Lee 181 Congo Blue



Designing a stage wash with a Selador Vivid FIRE utilizing a 30' (9.1m) trim height

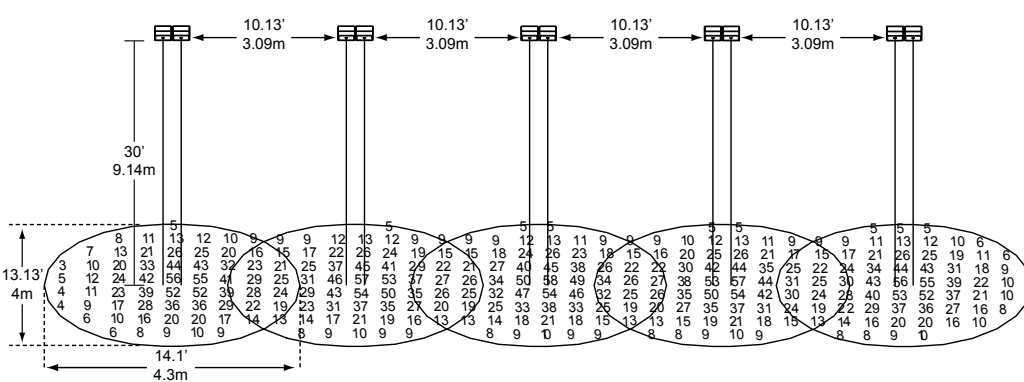


Good Performance...with Vivid Fire-11" on 9.13' (2.8m) Centers



Stage warmers like no others!

Potent Performance...with Vivid Fire-21" on 10.13' (3.09m) Centers



When its all about Heat!

Europe Reference Product

Light output comparison

To equal the brightness of one Vivid Fire you would need



1.5 PARs in Roscolux R45 Rose



2.5 PARs in Roscolux R49 Lt. Rose Purple



2.5 PARs in Roscolux R27 Med. Red



To equal the brightness of one Vivid Ice you would need



2.5 PARs in Roscolux R68 Sky Blue



8.5 PARs in Roscolux R83 Med. Blue



15.5 PARs in Lee 181 Congo Blue

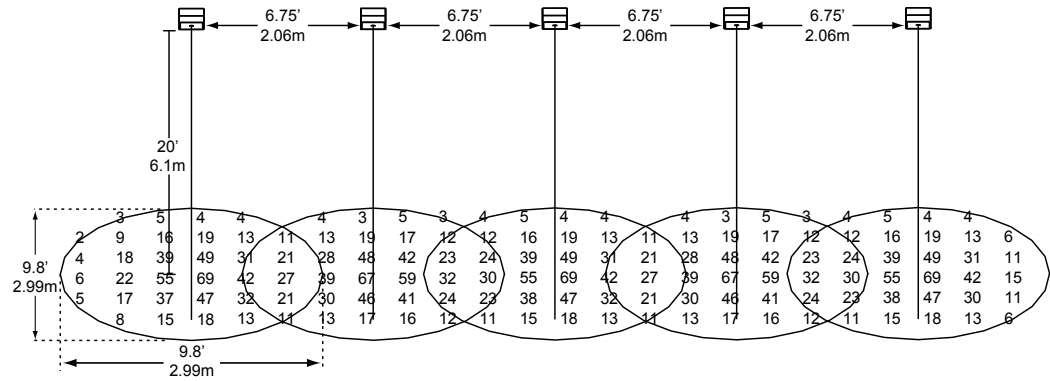




Designing a stage wash with a Selador Vivid ICE utilizing a 20' (6.1m) trim height

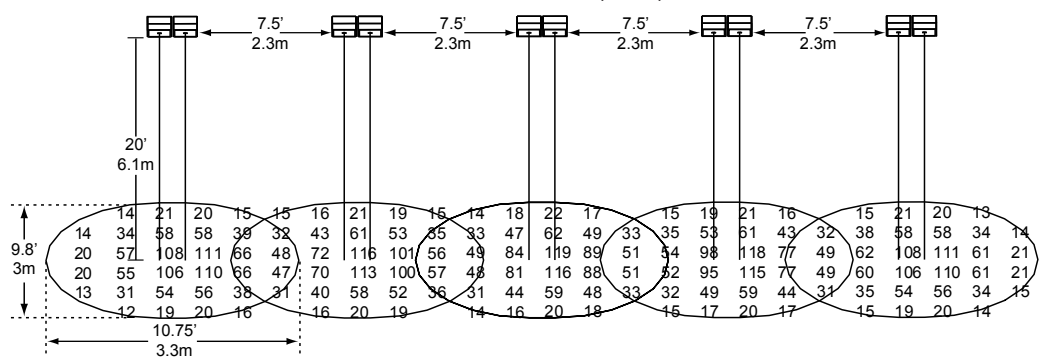
Cool and
consistent blues
of every hue.

Good Performance...with Vivid Ice-11" on 6.75' (2.06m) Center



Think,
Sir Edmund
Hillary on
Mount Everest
cool.

Potent Performance...with Vivid Ice-21" on 7.5' (2.3m) Centers



US Reference Product

Light output comparison

To equal the brightness
of one Vivid Fire you
would need



1.5 PARs in Roscolux R45 Rose



2.5 PARs in Roscolux R49 Lt. Rose Purple



2.5 PARs in Roscolux R27 Med. Red



To equal the brightness
of one Vivid Ice you
would need



2.5 PARs in Roscolux R68 Sky Blue



8.5 PARs in Roscolux R83 Med. Blue



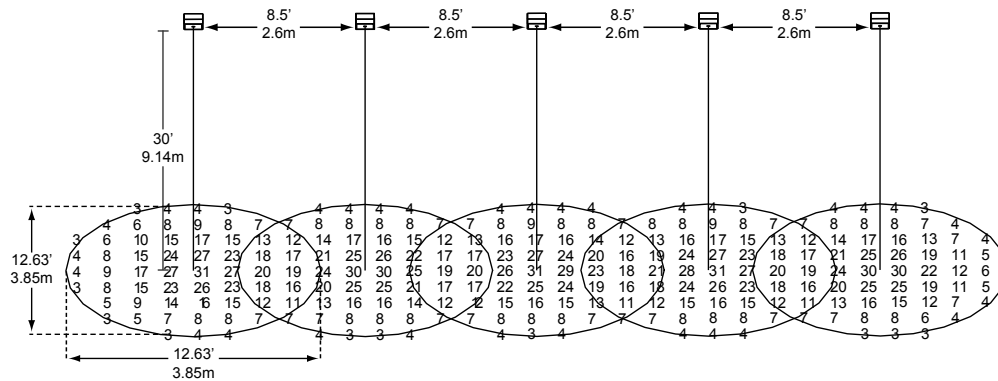
16 PARs in Lee 181 Congo Blue



Designing a stage wash with a Selador Vivid ICE utilizing a 30' (9.1m) trim height

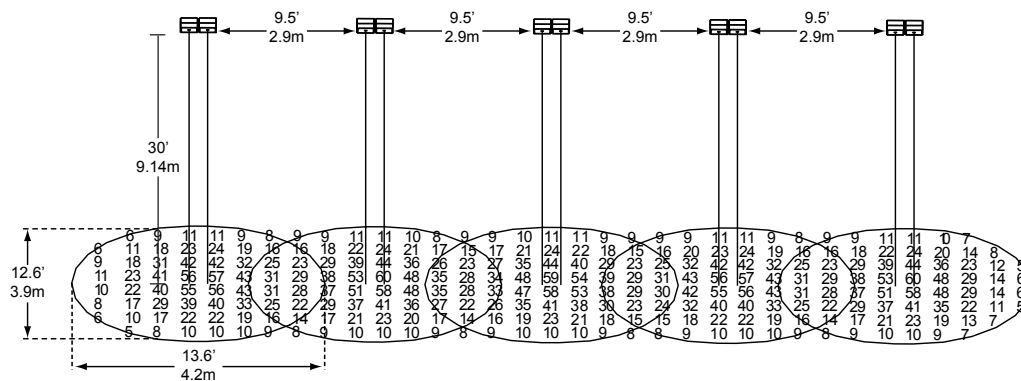


Good Performance....with Vivid Ice-11" on 8.5' (2.6m) Center



Cool hues of
blue for stage
wash or
backlight!

Potent Performance...with Vivid Ice-21" on 9.5' (2.9m) Centers



No stage light
has ever been
this bright
in blue!

Europe Reference Product

Light output comparison

To equal the brightness
of one Vivid Fire you
would need



1.5 PARs in Roscolux R45 Rose



2.5 PARs in Roscolux R49 Lt. Rose Purple



2.5 PARs in Roscolux R27 Med. Red



To equal the brightness
of one Vivid Ice you
would need



2.5 PARs in Roscolux R68 Sky Blue



8.5 PARs in Roscolux R83 Med. Blue

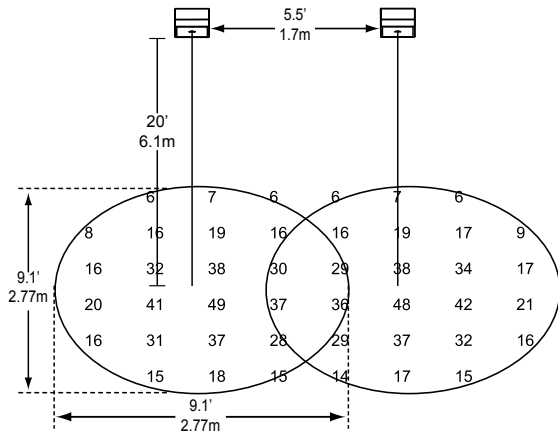


15.5 PARs in Lee 181 Congo Blue

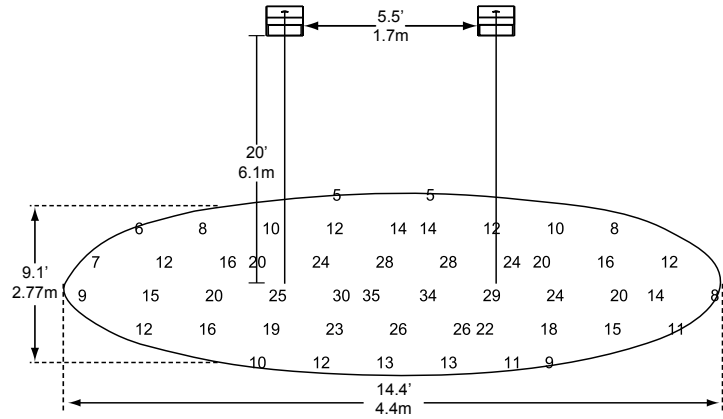


Selador Paletta-11, Vivid-R-11 and Lustr 11 with Clear and 40°Lenses

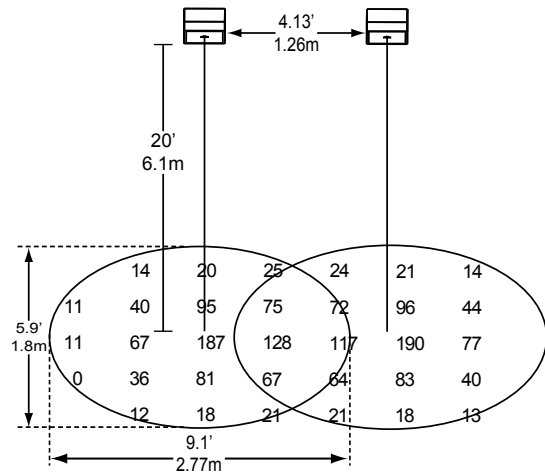
Paletta-11...with clear lenses installed



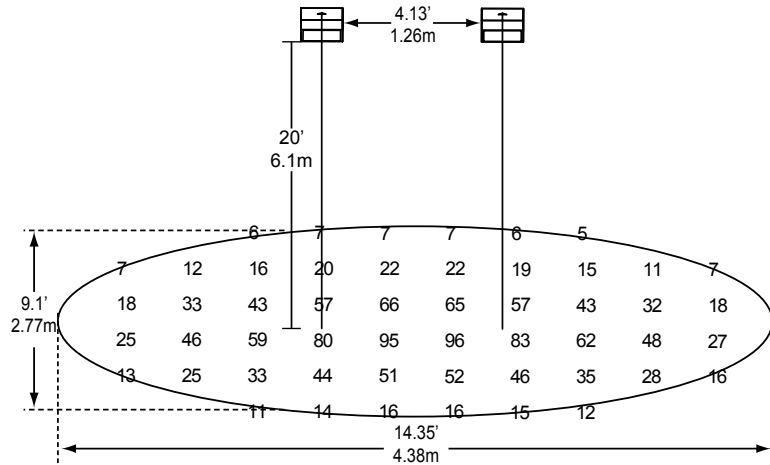
Paletta-11...with 40° lenses installed



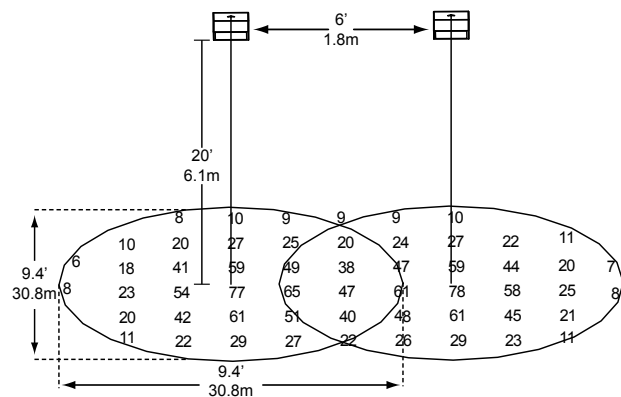
Vivid-R-11...with clear lenses installed



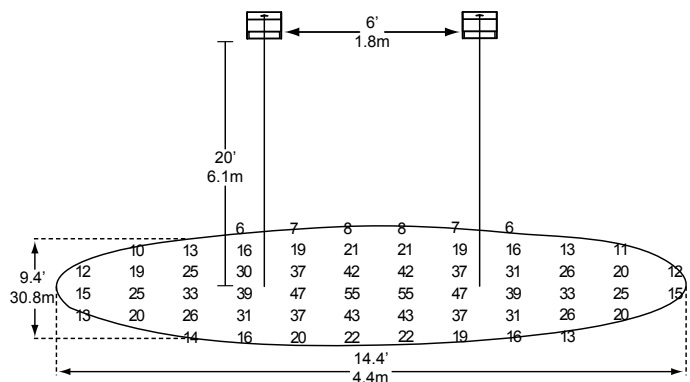
Vivid-R-11...with 40° lenses installed



Lustr-11...with clear lenses installed



Lustr-11...with 40° lenses installed



Vivid, Lustr, and Paletta Secondary Lens Clarity Table

Microlens Lens	Lens Efficiency			Vivid Field Angle Horiz	Vivid Field Angle Vert	Paletta Field Angle Horiz	Paletta Field Angle Vert	Lustr Field Angle Horiz	Lustr Field Angle Vert
	Vivid	Paletta	Lustr						
none	na	na	na	18	18	25	25	26	26
H40	97%	93%	93%	41	21	44	26	45	27
V40	100%	94%	94%	23	40	28	44	28	44
H50	96%	93%	95%	72	21	74	27	75	28
V50	97%	94%	94%	24	72	29	76	31	76
H60	97%	94%	95%	68	21	71	27	71	27
V60	99%	95%	96%	24	67	30	70	31	71
H70	96%	91%	93%	72	21	78	28	79	28
V70	97%	91%	94%	25	72	31	78	31	79
H80	92%	90%	90%	~78	22	80	27	82	28
V80	95%	90%	92%	26	80	31	82	31	82
H40 + V40	90%	86%	86%	44	42	47	45	48	46
H60 + V60	95%	91%	92%	70	70	73	72	73	72
H40 + V60	92%	89%	89%	45	69	48	72	48	72
H40 + V80	88%	85%	85%	45	81	48.6	82	49	82

Vivid-R Secondary Lens Clarity Table

Microlens Lens	Vivid-R Lens Efficiency	Vivid-R Field Angle Horiz	Vivid-R Field Angle Vert
none	na	16	16
H20	101%	36	20
V20	105%	22	36
H30	101%	34	20
V30	103%	22	33
H40	102%	38	20
V40	104%	22	38
H60	105%	67	21
V60	111%	29	66
H80	103%	78	21
V80	108%	29	77
H20 + V20	102%	40	39
H30 + V30	100%	38	36
H40 + V40	102%	42	41
H60 + V60	109%	70	68
H80 + V80	100%	80	79
H40 + V20	102%	42	39
H60 + V30	104%	69	38
H80 + V40	102%	79	42

Note: Efficiencies above 100% are caused by a redistribution of the light such that a greater % of the light is usable (e.g. field) lumens."

selador series by ETC

A Passion for Color: Selador® Series LEDs

Introducing a whole new way of thinking about LED luminaires - the Selador® Series by ETC. Go beyond effects lighting and give your theater effective LED luminaires that can be trusted in every application - from key, fill and side light to color washes and cyc lighting. Selador Series fixtures perform to your standards for warm and cool white light, soft tints, rich pastels, and intense primary colors, all without sacrificing the energy efficiency and long life you expect from LEDs.

lustr™



Finally -- bright pure white from an LED fixture, plus cool hues and warm colors for natural skin tones.

paletta™



Lush, soft washes of pastel color evoking the likes of Lee 11 or Apollo 3600, blending seamlessly with tungsten gel-colored fixtures.

VIVID-R



Shade your eyes. The bold saturated colors you love, recreated in a high-intensity and energy-saving LED beam.

VIVID-R



New! The passionate colors of fire and ice. Vivid™ high-wattage brightness with low-wattage LED efficiency.



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