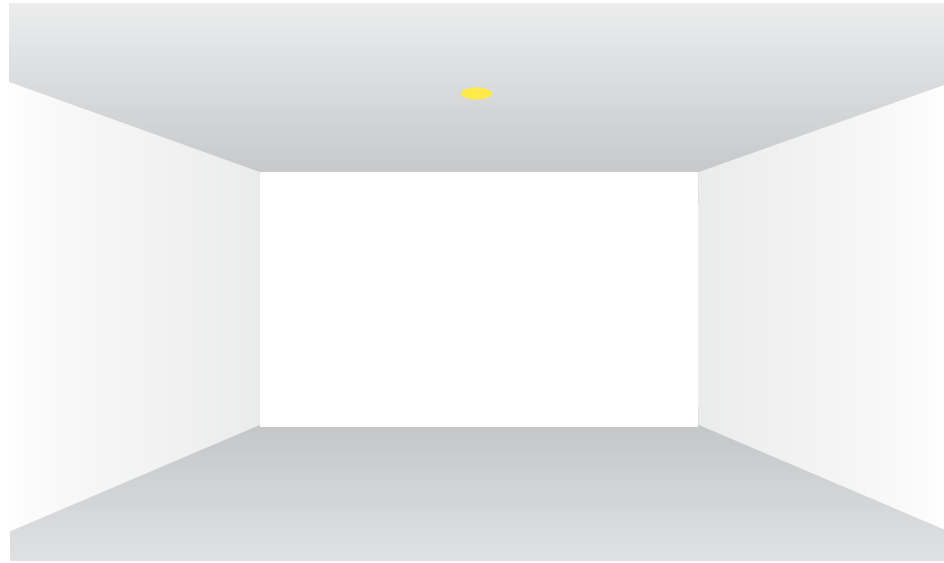


4" ProTools Single Downlight - Performance

WG 100SPTD, WG 100RPTD, WG 100SPTDL, WG 100RPTDL, WG 100SPTDLX, WG 100SPTDLX



The ProTools series offers Plaster Trim and Bezel Trim fixed, wall wash and adjustable downlights with various cover options and accessories creating a flexible and versatile range of luminaires with a single consistent minimal appearance throughout.

A downlight can be used to deliver general light over a broad area, or a focused beam of concentrated light. Suitable for general area lighting in single units, grid patterns or groups as well as focused lighting and task oriented application.

This design guide provides the average light levels and beam spread which can be expected at task and floor level from a single downlight at the ceiling heights shown, and relative to the performance of each luminaire.

Refer to the diagram on the left, select your luminaire, ceiling height and distance, and read off the light level achieved in the table below.

Calculated on the following basis:

Reflectances

Ceiling 70%
Walls 50%
Floor 20%

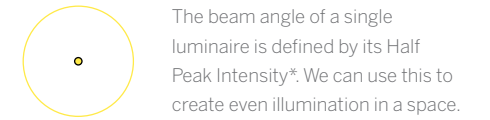
Maintenance factor

1.0

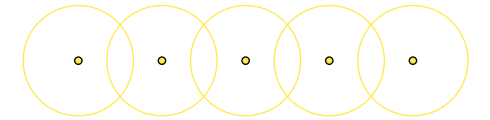
LED

High Power
3000 Kelvin
90 CRI

How to create 'Even Illumination' in a space:

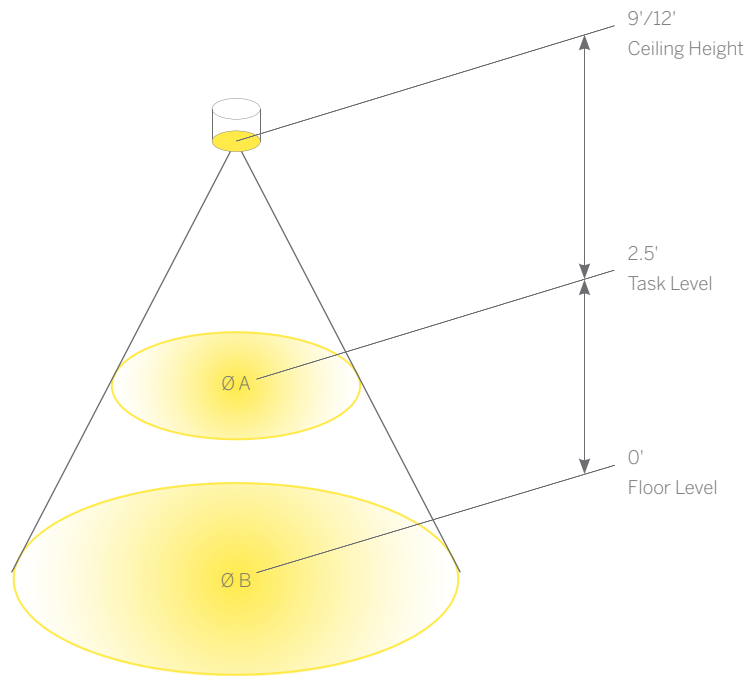


Arrange luminaires equally. Use the center of the luminaire as a base and ensure that neighboring beam spreads touch or slightly overlap.



*The point at which the beam reaches half of the intensity relative to the center of its beam.

Average Light Levels



The diagram shows the average light level achieved, across an area the size shown, at the given distance from a single luminaire.

Product Code	Beam Spread
WG 100SPTD, WG 100RPTD	- 90°
WG 100SPTDL, WG 100RPTDL	- 16°
	- 32°
	- 41°
WG 100SPTDLX, WG 100SPTDLX	- 16°
	- 32°
	- 41°
	- 8°

Calculation Results

Fixtures	Power	Beam	Accessory	Ceiling Height	Ø A	Task Level (2.5') Average	Ø B	Floor Level (0') Average
WG 100SPTD, WG 100RPTD	1512lm*	90°	Flush Lens	9.0'	Ø 13'	6.4 fc	Ø 18'	3.7 fc
				12.0'	Ø 19'	3.1 fc	Ø 24'	2.1 fc
WG 100SPTDL, WG 100RPTDL, WG 100SPTDLX, WG 100SPTDLX	2027lm*	16°	Open Aperture	9.0'	Ø 1.8'	102 fc	Ø 2.5'	54 fc
				12.0'	Ø 2.7'	49 fc	Ø 3.4'	31 fc
				9.0'	Ø 4.2'	33 fc	Ø 5.8'	18 fc
12.0'	Ø 6.2'	16 fc	Ø 7.8'					
9.0'	Ø 5'	24 fc	Ø 6.7'	13 fc				
					12.0'	Ø 7.1'	12 fc	Ø 8.9'
WG 100SPTDLX, WG 100SPTDLX	1638lm*	8°	Glare Shield/ Snoot	9.0'	Ø 0.9'	277 fc	Ø 1.2'	149 fc
				12.0'	Ø 1.3'	132 fc	Ø 1.7'	82 fc

Values in Foot Candles

4" ProTools D Downlight All Covers

Product Details

76-77

4" ProTools DL Downlight All Covers

Product Details

82-85

4" ProTools DL Adjustable All Covers

Product Details

88-93

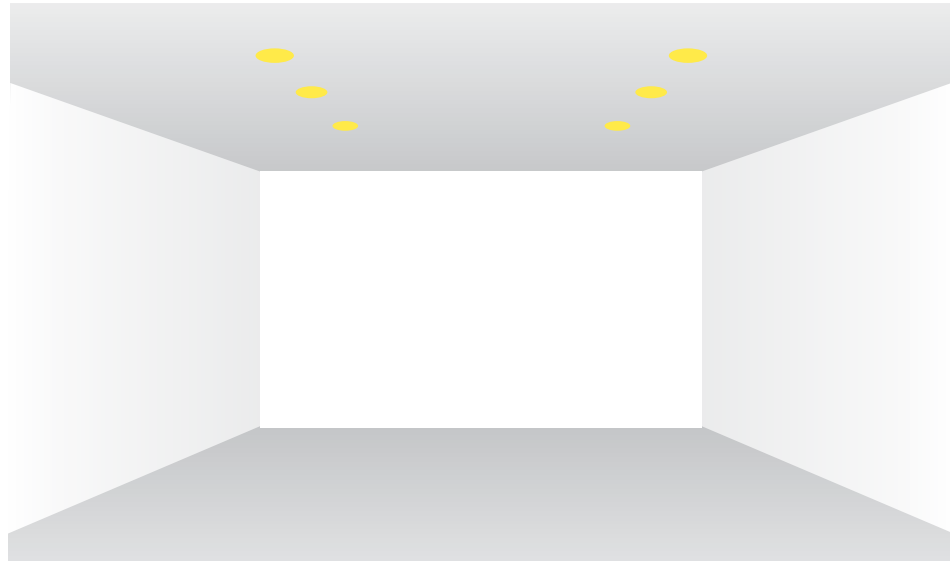
4" ProTools DLX Downlight All Covers

Product Details

94-99

4" ProTools Multiple Downlight - Grid Set Out

WG 100SPTD, WG 100RPTD, WG 100SPTDL, WG 100RPTDL, WG 100SPTDLX, WG 100SPTDLX



Plaster Trim and Bezel Trim fixed, wall wash and adjustable downlights with various cover options and accessories creating a flexible and versatile range of luminaires with a single consistent minimal appearance throughout.

A downlight can be used to deliver general light over a broad area, or a focused beam of concentrated light. Suitable for general area lighting in single units, grid patterns or groups as well as focused lighting and task oriented application.

This design guide provides the average light levels which can be expected at floor level from a grid of downlights at the ceiling heights shown, and relative to the performance of each luminaire.

Refer to the diagram on the left, select your luminaire, ceiling height and set out, and read off the light level achieved in the table below.

Calculated in a 20'x20' room size and on the following basis:

Reflectances

Ceiling 70%
Walls 50%
Floor 20%

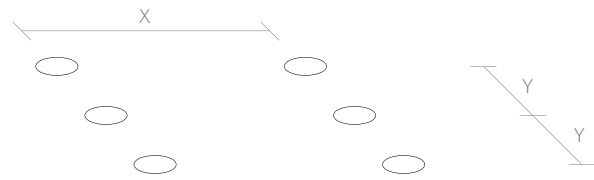
Maintenance factor

1.0

LED

High Power
3000 Kelvin
90 CRI

Light Levels



The diagram and table can be read to establish light levels achieved when luminaires are set out at the dimensions indicated, at the ceiling heights shown.

Product Code	Beam Spread
WG 100SPTD, WG 100RPTD	- 90°
WG 100SPTDL, WG 100RPTDL	- 32° - 41°
WG 100SPTDLX, WG 100SPTDLX	- 32° - 41°

X = luminaire spacing center to center
Y = distance between rows

Calculation Results

Fixtures	Power	Beam	Accessory	Ceiling Height	Y	X		
						Average Light Levels (fc)		
						4.0'	6.0'	8.0'
WG 100SPTD, WG 100RPTD	1512lm*	90°	Flush Lens	9.0'	4.0'	46	38	34
					6.0'	38	32	28
					8.0'	34	28	25
				12.0'	4.0'	35	30	27
					6.0'	30	27	23
					8.0'	27	23	21
WG 100SPTDL, WG 100RPTDL, WG 100SPTDLX, WG 100SPTDLX	2027lm*	32°	Open Aperture	9.0'	4.0'	33	32	29
					6.0'	32	30	28
					8.0'	30	28	26
				12.0'	4.0'	30	29	27
					6.0'	29	28	26
					8.0'	27	26	24
		41°	Open Aperture	9.0'	4.0'	32	31	28
					6.0'	30	29	27
					8.0'	28	27	25
				12.0'	4.0'	29	28	25
					6.0'	28	26	24
					8.0'	25	24	22

Values in Foot Candles

4" ProTools D Downlight
All Covers

4" ProTools DL Downlight
All Covers

4" ProTools DL Adjustable
All Covers

4" ProTools DLX Downlight
All Covers

Product Details

76-77

Product Details

82-85

Product Details

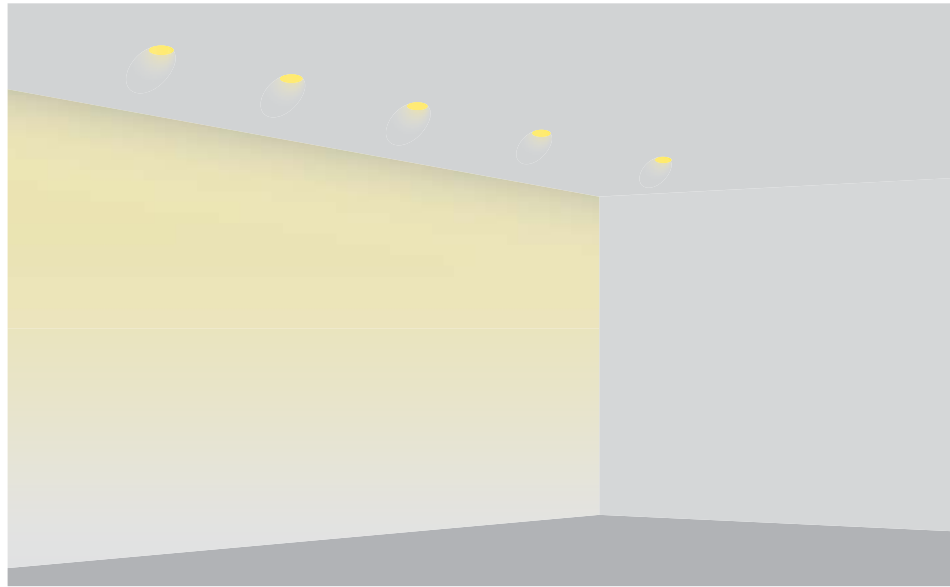
88-93

Product Details

94-99

4" ProTools DL Wall Wash

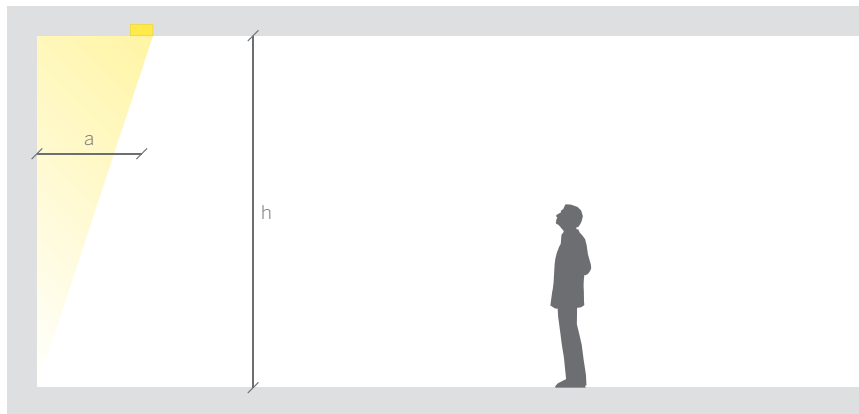
WG 100SPTDLWW-RPT, WG 100SPTDLWW-RBT, WG 100RPTDLWW-RPT, WG 100RPTDLWW-RBT



ProTools DL Wall Wash offers round and square dedicated wall wash luminaires for even illumination of a surface. They emit a wide, even beam of light which is directed towards the wall. Washlights need to be correctly positioned, both in terms of distance from the wall, and their relative distance to one another. This guide will help you get the best result.

The golden rule is 1:1 spacing between luminaires, set to match the distance they are offset from the surface to be lit. And that offset distance should ideally be one third of the overall surface height.

Of course, at Whitegoods we understand that constraints of modern construction requirements and commercial consideration mean that it is not always practical to apply these parameters. Therefore we have designed our wall wash luminaires to work as well as possible even when mounted close to the wall.

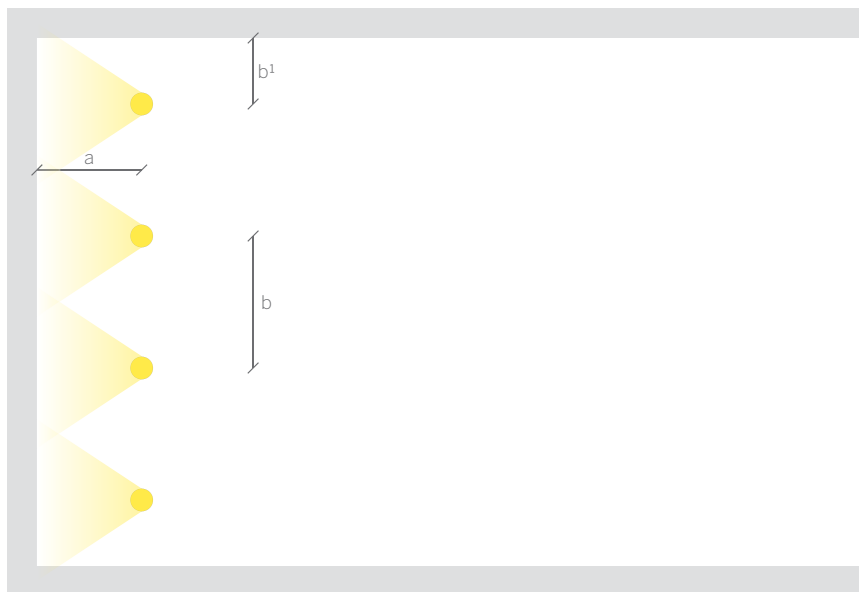


The height of the wall to be lit (h) will determine the best distance at which to position wall wash luminaires. A good 'rule of thumb' is to offset them by approximately one third of the wall height.

For optimum wall washing results use a 1:1 ratio between the offset (a) from the wall and the 'on center' luminaire spacings (b).

e.g. - if the wall is 9' high, then the luminaires will ideally be 3' away from the wall surface, so set them out at 3' on center - i.e. with 3' between each luminaire.

Also, where the wall meets an adjacent surface, space the last luminaire half the set out distance (b¹).



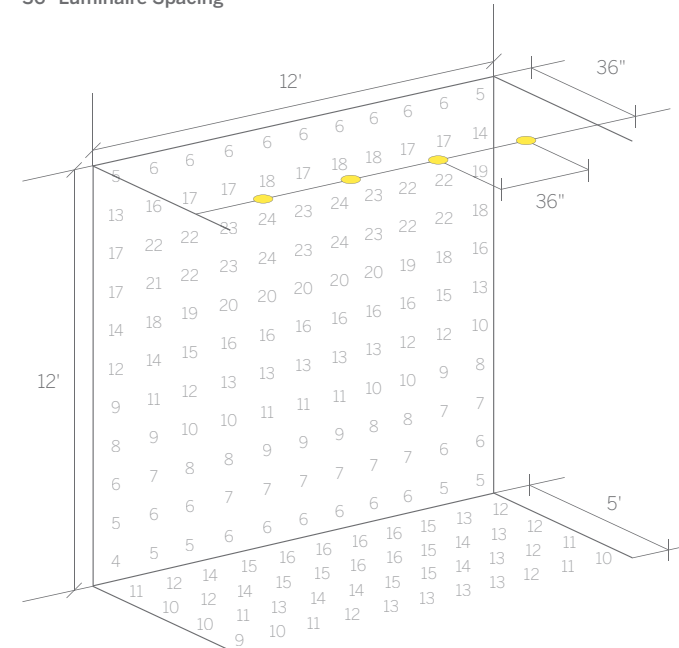
4" ProTools DL Wall Wash Square Wall Wash Cover

Product Details 106

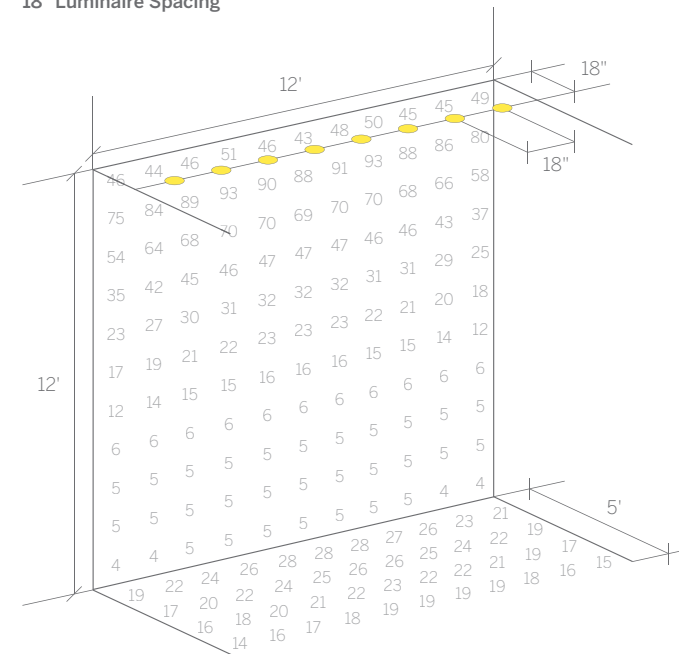
4" ProTools DL Wall Wash Round Wall Wash Cover

Product Details 107

12' Ceiling, 36" Offset, 36" Luminaire Spacing



12' Ceiling, 18" Offset, 18" Luminaire Spacing



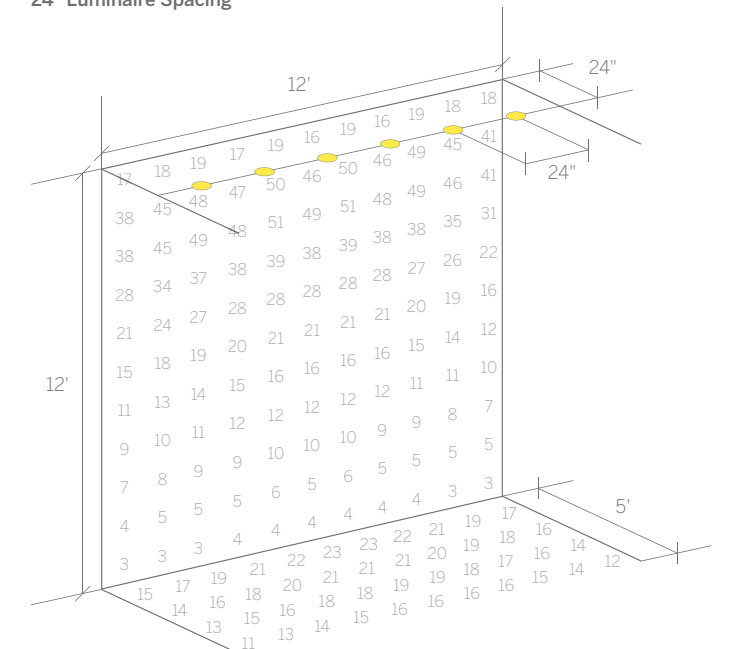
Values in Foot Candles

Calculated on the following basis:

Reflectances	Maintenance Factor	LED	Diffuser
Ceiling 70%	1.0	2027lm*	Custom Micro-prismatic wash lens
Walls 50%		3000 Kelvin	
Floor 20%		90 CRI	

This page shows what we feel are the optimal offsets and luminaire spacings to achieve even illumination. The following page shows results at different offsets and luminaire spacings.

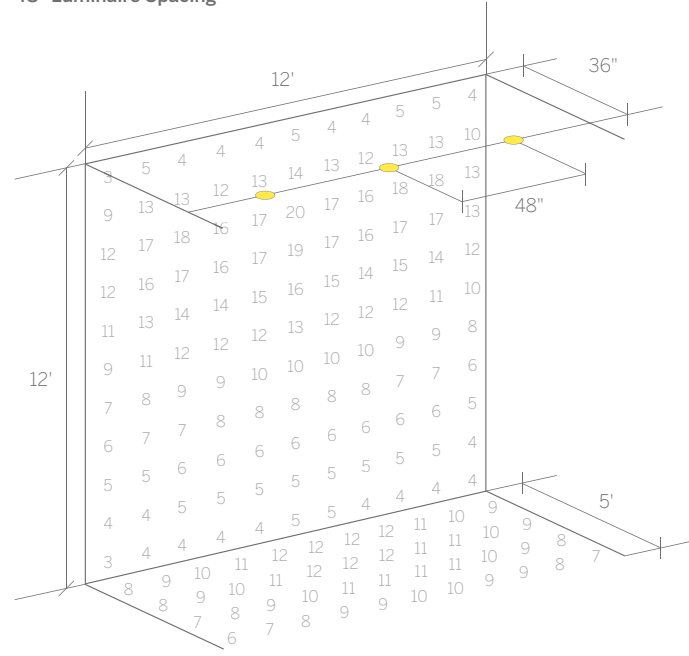
12' Ceiling, 24" Offset, 24" Luminaire Spacing



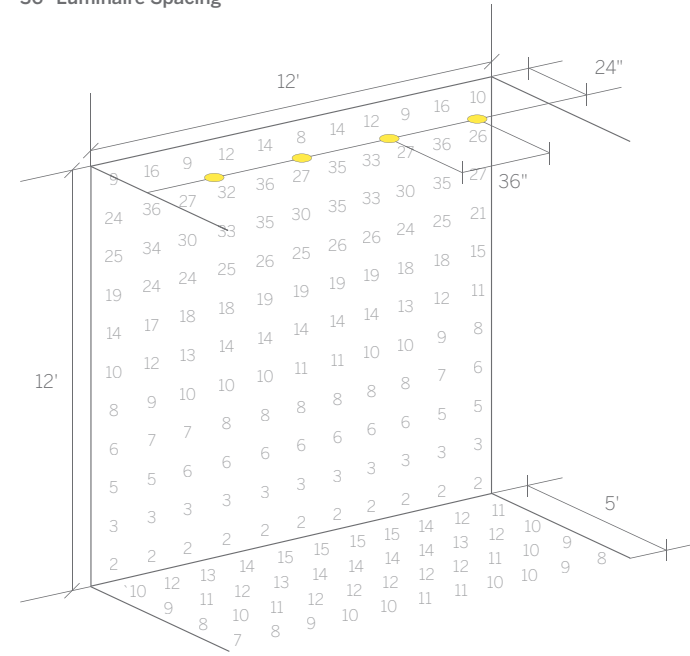
4" ProTools DL Wall Wash

WG 100SPTDLWW-RPT, WG 100SPTDLWW-RBT, WG 100RPTDLWW-RPT, WG 100RPTDLWW-RBT

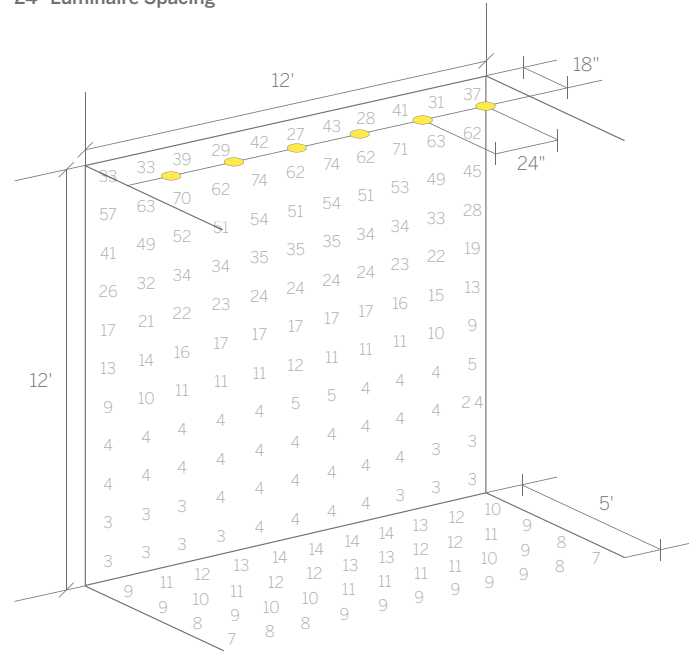
12' Ceiling, 36" Offset,
48" Luminaire Spacing



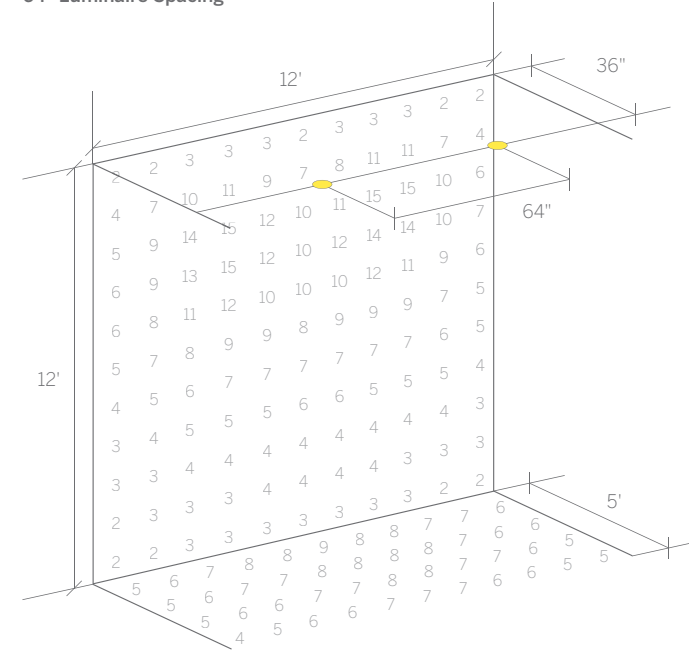
12' Ceiling, 24" Offset,
36" Luminaire Spacing



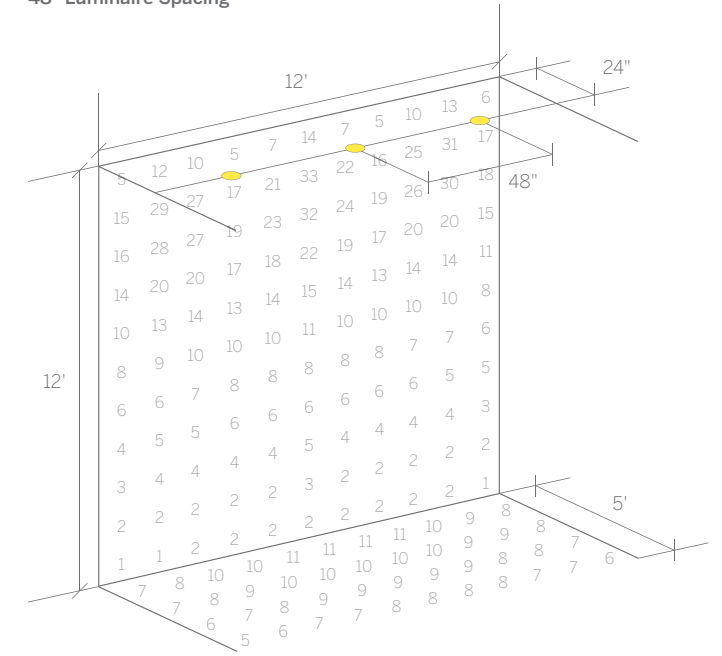
12' Ceiling, 18" Offset,
24" Luminaire Spacing



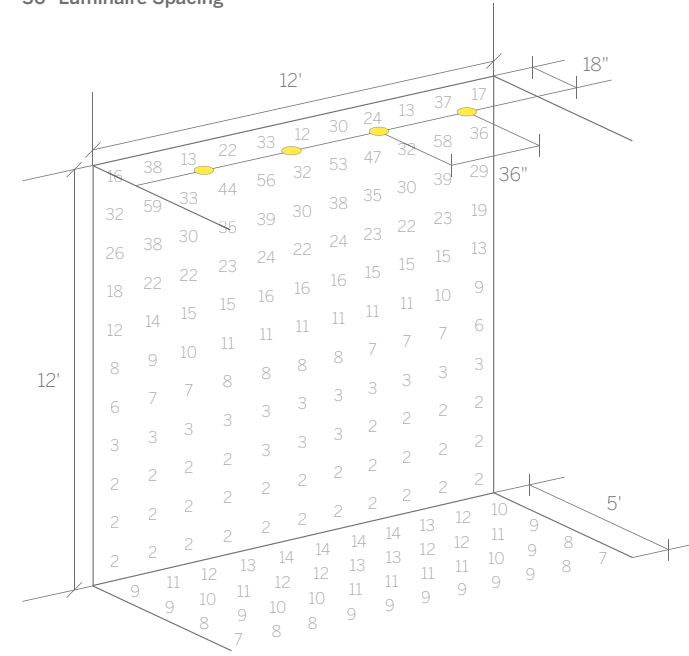
12' Ceiling, 36" Offset,
64" Luminaire Spacing



12' Ceiling, 24" Offset,
48" Luminaire Spacing



12' Ceiling, 18" Offset,
36" Luminaire Spacing



Values in Foot Candles

4" ProTools DL Wall Wash Square Wall Wash Cover

Product Details 106

4" ProTools DL Wall Wash Round Wall Wash Cover

Product Details 107

Values in Foot Candles

Calculated on the following basis:

Reflectances	Maintenance Factor	LED	Diffuser
Ceiling 70%	1.0	2027lm*	Custom Micro-prismatic wash lens
Walls 50%		3000 Kelvin	
Floor 20%		90 CRI	