

# lightculture)

INSPIRED LIGHT

## THE WELL DESIGN GUIDE: LIGHT



# INTRODUCTION TO THE WELL STANDARD



## WHAT IS THE WELL STANDARD

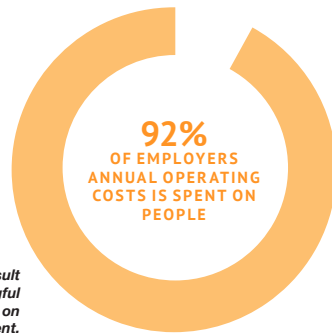
The WELL Building Standard is a vehicle for buildings and organisations to deliver more thoughtful and intentional spaces that enhance human health and well-being. Backed by the latest scientific research, WELL includes strategies that aim to advance health by setting performance standards for design interventions, operational protocols and policies and a commitment to fostering a culture of health and wellness. Built on the pioneering foundation of the first version of the WELL Building Standard, WELL v2 draws expertise from thousands of WELL users, practitioners, medical professionals, public health experts and building scientists around the world.

Requirements under WELL v2.0 are grouped under 10 concept areas; Air, Water, Nourishment, Light, Movement, Thermal Comfort, Sound, Materials, Mind, and Community. Within these categories are 23 mandatory Preconditions and 94 available Optimisations. The detailed requirements under each of these Features address virtually every environmental and design feature that could impact employee well-being.

**THE WELL BUILDING STANDARD IS PART OF A LARGER MOVEMENT IN ARCHITECTURE TO CREATE BUILDINGS THAT ARE BETTER FOR THE ENVIRONMENT AND BETTER FOR THE HUMANS THAT OCCUPY THEM.**



*The quality of our buildings can impact our productivity and the way we feel.*



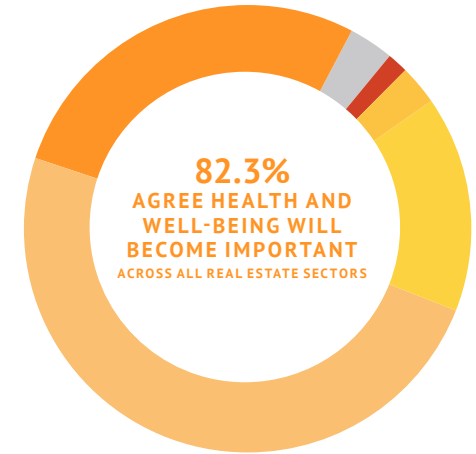
*WELL can result in meaningful returns on investment.*

## THE BENEFITS OF THE WELL STANDARD

We live more than 90% of our time indoors, and 36% of that is in the workplace, making lighting a critical factor in the built environment. Light presents considerable influence on occupants in multiple ways.

There is now plenty of field research and case studies showing that money invested to make employees happier, healthier, and more comfortable pays off in real-dollar savings that are much greater than the payback for investments in energy conservation or space utilisation.

The WELL Light concept aims to provide a lighting environment that reduces circadian phase disruption, improves sleep quality and positively impacts mood and productivity.



- Strongly agree 28.4%
- Agree 53.9%
- Neither agree or disagree 13.7%
- Disagree 2.3%
- Strongly disagree 0.6%
- Don't know 1.1%

—ULI AND PwC, "EMERGING TRENDS IN REAL ESTATE 2021"

**PROJECTS MAY PURSUE NO MORE THAN 12 POINTS PER CONCEPT AND NO MORE THAN 100 POINTS TOTAL ACROSS THE TEN CONCEPTS**



**FOR MORE INFORMATION VISIT THE WELL WEBSITE:  
WWW.WELLCERTIFIED.COM**

# THE CULTURA FAMILY

From what started as a single fixture, the Cultura has now grown into a full family. The product range was designed in Australia and is manufactured in Australia to cater for different project requirements, aesthetics, and budgets.

The Cultura family is not just assembled in Australia; it is a genuinely Australian Made product. We source our sheet metal from regional suppliers and process it in Light Culture's Competence Centre at Somersby, NSW. A quality local powder coat is used so that the paint finish can meet strict guidelines. The LED boards, the driver, and the diffuser are from accredited and established OEM suppliers who meet strict QA and ethical sourcing standards.

The components of these luminaires are also sourced locally to minimise embodied energy.

As the Cultura range is made using the highest quality components, and manufactured under strict quality control, we are able to offer a 10 year warranty across the entire range. There is also no caps on annual running hours, no need to register, no nominal defect rates and a 13 month labour warranty.





# BEYOND VISION™

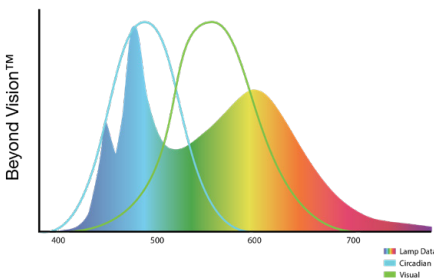
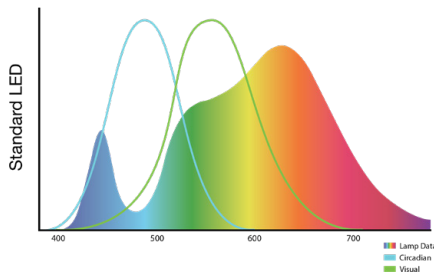
**0.986**  
MELANOPIC RATIO

## LIGHT BEYOND VISION™

Beyond Vision™ is a Light Culture enterprise brand, utilizing the latest LED technology available to achieve outstanding circadian performance without compromising on reliability and efficacy. High performance 4000K LEDs are supplemented with a cyan enhanced spectrum with peak emittance at 480nm. Optimised phosphor coatings achieve a Colour Rendering Index of 80 with an R9 (a saturated red colour, critical for making humans look healthy) of more than 50.

Diffusion provides for the blending of the wavelengths, resulting in a uniform appearance.

The overall result is a Melanopic ratio of 0.986 at 4200K, producing more than 40% more Equivalent Melanopic Lux than a standard 4000K LED producing the same vertical illuminance.



**BEYOND VISION™  
ENABLED PRODUCTS  
CONTRIBUTE TOWARD  
SATISFYING FEATURES  
L01, L03, L04 & L08 IN  
THE WELL BUILDING  
STANDARD V2®**

# HOW TO USE THIS DOCUMENT

This information is taken directly from the Well Building Standard V2, Q2 2021.

## PRECONDITIONS

Preconditions define the fundamental components of a WELL Certified space and serve as the foundation of a healthy building. WELL v2 offers a universal set of preconditions for all projects. For the Lighting Feature, these are L01 and L02.

All preconditions – including all parts within them – are mandatory for certification.

## OPTIMISATIONS

Optimisations are optional pathways for projects to meet certification requirements in WELL. Project teams may select which optimisations to pursue and which parts to focus on within each optimisation.

WELL v2 operates on a points-based system, with 110 points available in each project scorecard, with 18 from the Lighting Feature. All optimisations are weighted with varying point values. The maximum point value of a feature is determined by the sum of its parts. A part is weighted by its potential for impact, defined as the extent to which a feature addresses a specific health and well-being concern or opportunity for health promotion, and the potential impact of the intervention.

Projects may pursue no more than 12 points per concept and no more than 100 points total across the ten concepts

Note: for some optimizations, achieving points in one part is contingent upon achieving points in another part.

## EXAMPLE DESIGNS

We have included example designs for four Cultura luminaires, which can be found at the end of this document.

## ADVANCING THE UNITED NATIONS SUSTAINABLE DEVELOPMENT

The 17 Sustainable Development Goals (SDGs) are part of the 2030 Agenda for Sustainable Development. They set 169 specific, measurable targets across a wide range of interdependent social, economic and environmental issues ranging from reducing poverty to tackling climate change. Together, the SDGs form a call to action for countries and institutions around the world to partner toward building an equitable society and flourishing planet.

### L01 LIGHT EXPOSURE

This WELL feature requires projects to provide appropriate light exposure in indoor environments through lighting strategies.  
\* Verified by Technical Document

**PART 1: PROVIDE INDOOR LIGHT**

**Option 1: Daylight Simulation**  
The project demonstrates, through computer simulations, that one of the following conditions are achieved:

a) Regularly occupied spaces achieve one of the following targets:

Calculations per IES LM-63-12	Calculations per Annex A of CEN 17037:2018
Average sDA 200,40% is achieved for > 90% of regularly occupied floor area	OR
Target illuminance 19 lx is achieved for >30% of individual unit area throughout 50% of daylight hours of the year	OR
Average sDA 300,50% is achieved for > 75% of floor area	OR
Target illuminance 28 lx is achieved for >30% of individual unit area and average illuminance 9 lx is achieved for >80% of individual unit area throughout 50% of daylight hours of the year	

b) Common spaces that have unassigned seating for at least 15% of regular occupants at any given time achieve one of the following targets:

Calculations per IES LM-63-12	Calculations per Annex A of CEN 17037:2018
Average sDA 300,50% is achieved for > 75% of floor area	OR
Target illuminance 28 lx is achieved for >30% of individual unit area and average illuminance 9 lx is achieved for >80% of individual unit area throughout 50% of daylight hours of the year	

**Option 2: Interior Layout**  
One of the following requirements is met:

a) At least 30% of the regularly occupied area is within a 20 ft horizontal distance of envelope glazing in each floor and/or in each individual unit.

b) Common spaces have unassigned seating and can accommodate at least 15% of regular occupants at any given time. At least 70% of all seating in the spaces is within a 16 ft horizontal distance of envelope glazing.

**Option 3: Building design**  
One of the following requirements is met:

a) The envelope glazing area is no less than 7% of the regularly occupied floor area for each floor level or individual unit.

b) The floor plate is no more than 65 ft between opposite walls that each have transparent envelope glazing, and there are no opaque obstructions higher than 3.2 ft within a 20 ft horizontal distance of the transparent envelope glazing.

**Option 4: Circadian lighting design**  
The following requirement is met: The project achieves at least one point in Feature L03: Circadian Lighting Design.

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS
PRECONDITION	✓	✓	✓	✓
	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03

- ✓ Contributes towards satisfying
- ✓ Not luminaire related, but possible
- ☀️ Related to natural light

The component of the feature BV is able to contribute towards satisfying.

# L01

## LIGHT EXPOSURE



This WELL feature requires projects to provide appropriate light exposure in indoor environments through lighting strategies.

• *Verified by Technical Document*

### PART 1: PROVIDE INDOOR LIGHT

#### Option 1: Daylight Simulation

The project demonstrates, through computer simulations, that one of the following conditions are achieved:

a) Regularly occupied spaces achieve one of the following targets:

Calculations per IES LM-83-12	OR	Calculations per Annex A of CEN 17037:2018
Average sDA 200, 40% is achieved for > 30% of regularly occupied floor area		Target illuminance 19 fc is achieved for >30% of individual unit area throughout 50% of daylight hours of the year

b) Common spaces that have unassigned seating for at least 15% of regular occupants at any given time achieve one of the following targets:

Calculations per IES LM-83-12	OR	Calculations per Annex A of CEN 17037:2018
Average sDA 300, 50% is achieved for > 75% of floor area		Target illuminance 28 fc is achieved for >30% of individual unit area and average illuminance 9 fc is achieved for >95% of individual unit area throughout 50% of daylight hours of the year

#### Option 2: Interior Layout

One of the following requirements is met:

a) At least 30% of the regularly occupied area is within a 6 m horizontal distance of envelope glazing in each floor and/or in each individual unit.

b) Common spaces have unassigned seating and can accommodate at least 15% of regular occupants at any given time. At least 70% of all seating in the spaces is within a 5 m horizontal distance of envelope glazing.

#### Option 3: Building design

One of the following requirements is met:

a) The envelope glazing area is no less than 7% of the regularly occupied floor area for each floor level or individual unit.

b) The floor plate is no more than 20 m between opposite walls that each have transparent envelope glazing, and there are no opaque obstructions higher than 1 m within a 6 m horizontal distance of the transparent envelope glazing.

#### Option 4: Circadian lighting design

The following requirement is met: The project achieves at least one point in Feature L03: Circadian Lighting Design.

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PRECONDITION	✓	✓	✓	✓	✓
	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03	Option 4: Gains 3 points in L03

# L02

## VISUAL LIGHTING DESIGN



This WELL feature requires projects to provide appropriate illuminances on work planes for regular users of all age groups, as required for the tasks performed in the space.

• *Verified by Technical Document and Performance Test*

### PART 1: PROVIDE VISUAL ACUITY

#### Option 1: Visual Lighting Design

The following requirements are met:

a) All indoor and outdoor spaces (including transition areas) comply with the illuminance thresholds specified in one of the following lighting reference guidelines:

- IES Lighting Handbook 10th Edition.
- EN 12464-1&2: 2011.
- ISO 8995-1:2002(E) (CIE S 008/E:2001).
- GB50034-2013.
- CIBSE SLL Code for Lighting.

b) The illuminance thresholds take into consideration the tasks and the age groups of the occupants.

#### Option 2: Predetermined light levels

The following requirements are met:

a) More than 50% of the occupants are under the age of 65.

b) At least 90% of the project area is comprised of the following space types and meets the associated illuminance thresholds:

- Offices and classrooms: minimum 30 fc at task surface.

- Lobby, atrium and transition (including corridor and outdoor pathways): minimum 10 fc at floor level.
- Storage spaces: minimum 10 fc at floor level.
- Dining, Lounge and Restrooms: minimum 10 fc at task surface.

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
	✓	✓	✓	✓	✓
PRECONDITION	Option 1A: Lighting Design Dependant Equivalence is claimed by compliance with AS 1680 : 2006	Option 1A: Lighting Design Dependant Equivalence is claimed by compliance with AS 1680 : 2006	Option 1A: Lighting Design Dependant Equivalence is claimed by compliance with AS 1680 : 2006	Option 1A: Lighting Design Dependant Equivalence is claimed by compliance with AS 1680 : 2006	Option 1A: Lighting Design Dependant Equivalence is claimed by compliance with AS 1680 : 2006
	Option 1B: Lighting Design Dependant	Option 1B: Lighting Design Dependant	Option 1B: Lighting Design Dependant	Option 1B: Lighting Design Dependant	Option 1B: Lighting Design Dependant

# L03

## CIRCADIAN LIGHTING DESIGN



This WELL feature requires projects to provide users with appropriate exposure to light for maintaining circadian health and aligning the circadian rhythm with the day-night cycle.

• *Verified by Performance Test*

### PART 1: MEET LIGHTING FOR DAY-ACTIVE PEOPLE

For workstations used during the daytime, electric lighting is used to achieve the following thresholds:

a) The following light levels are achieved for at least four hours (beginning by noon at the latest) at a height of 45 cm above the work-plane for all workstations in regularly occupied spaces:

Threshold	Threshold for Projects with Enhanced Daylight	pts
At least 150 EML [136 M-ED](D65)] OR	The project achieves at least 120 EML [109 M-ED](D65)] and L05 Part 1 or L06 Part 1	1
At least 240 EML [218 M-ED](D65)] OR	The project achieves at least 180 EML [163 M-ED](D65)] and L05 Part 1 or L06 Part 1	3

b) The light levels are achieved on the vertical plane at eye level to simulate the light entering the eye of the occupant.

WELL V2, Q2 2021

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
	✓	✓	✓	✓	✓
PART 1 3 POINTS	Sample design*: Achieves minimum of 190 EML	Sample design*: Achieves minimum of 181 EML	Sample design*: Achieves minimum of 193 EML	Sample design*: Achieves minimum of 186 EML	Sample design*: Achieves minimum of 190 EML
	L05 Part 1 & L06 Part 1 Design Dependant	L05 Part 1 & L06 Part 1 Design Dependant	L05 Part 1 & L06 Part 1 Design Dependant	L05 Part 1 & L06 Part 1 Design Dependant	L05 Part 1 & L06 Part 1 Design Dependant

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\* Refer to design examples at the end of this document.



# L04

## ELECTRIC LIGHT GLARE CONTROL



This WELL feature requires projects to manage glare by using strategies, such as calculation of glare and choosing the appropriate light fixtures for the space.

• *Verified by Technical Document*

For all spaces except industrial, choose between the following:

### PART 1: MANGAGE GLARE FROM ELECTRICAL LIGHTING

#### Option 1: Luminaire considerations

Each luminaire meets one of the following requirements for regularly occupied spaces at light output representative of regular use conditions. Wall wash fixtures and concealed fixtures, installed as specified by manufacturer's data, as well as decorative fixtures may be excluded from meeting these requirements:

- 100% of light is emitted above the horizontal plane.
- Classified with Unified Glare Rating (UGR) of 16 or lower.
- Luminance that does not exceed 6,000 cd/m<sup>2</sup> at any angle between 45 and 90 degrees from nadir.

#### Option 2: Space considerations

The following requirement is met in all regularly occupied spaces:

- Unified Glare Rating (UGR) of 16 or lower.

WELL V2, Q2 2021

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	✓	✓	✓	✓	✓
	<b>2</b> POINTS	<b>Option 1:</b> 4077 cd/m Maximum luminance for between 45 and 90 degrees from nadir	<b>Option 1:</b> 5017 cd/m Maximum luminance for between 45 and 90 degrees from nadir	<b>Option 1:</b> 5593 cd/m Maximum luminance for between 45 and 90 degrees from nadir	<b>Option 1:</b> 3281 cd/m Maximum luminance for between 45 and 90 degrees from nadir

# L05

## DAYLIGHT DESIGN STRATEGIES



This WELL feature requires projects to design spaces to integrate daylight into indoor environments, so that daylight may be used for visual tasks along with electric lighting. It also provides individuals with a connection to outdoor spaces through windows.

• Verified by Technical Document, On-site Photographs, Policy and Operations Schedule

### PART 1: IMPLEMENT DAYLIGHT PLAN

The following requirement is met:

a) The project demonstrates that the following conditions are achieved in each floor:

Interior Layout	OR	Façade Design	pts
1 70% of all workstations are within 25 ft of transparent envelope glazing. Visible light transmittance (VLT) is greater than 40%.		Envelope glazing is no less than 15% of the regularly occupied floor area or individual unit. Visible light transmittance (VLT) of windows is greater than 40%.	1
2 70% of all workstations are within 16 ft of transparent envelope glazing. Visible light transmittance (VLT) is greater than 40%.		Envelope glazing is no less than 25% of the regularly occupied floor area or individual unit. Visible light transmittance (VLT) of windows is greater than 40%.	2

regularly occupied spaces:

a) All vertical transparent envelope glazing has shading that meet one of the following:

Type of Shading	pts
1 Manual shading controllable by regular occupants at all times. Shades are regularly opened once a day for all days that the project is in use	1
2 Shading is automated to prevent glare	2

		CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	2 POINTS (MAX)					
		Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant
PART 2	2 POINTS (MAX)					
		Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant

### PART 2: INTEGRATE SOLAR SHADING

The following requirements are met in

# L06

## DAYLIGHT SIMULATION



This WELL feature requires projects to conduct daylight simulation calculations to make informed decisions around fenestration and shading, so as to provide appropriate daylight exposure for occupants.

• *Verified by Technical Document*

### PART 1: CONDUCT DAYLIGHT SIMULATION

The project demonstrates, through computer simulations, that the following conditions are achieved in each floor:

a) Regularly occupied spaces achieve one of the following targets:

WELL V2, Q2 2021

	Calculations per IES LM-83-12	OR	Calculations per Annex A of CEN 17037:2018	pts
1	Average sDA300,50% is achieved for > 55% of regularly occupied floor area		Target illuminance of 28 fc is achieved for >50% of individual unit area throughout 50% of daylight hours of the year	1
2	Average sDA300,50% is achieved for > 75% of regularly occupied floor area		Target illuminance of 28 fc is achieved for >50% of individual unit area and average illuminance 9 fc is achieved for >95% of individual unit area throughout 50% of daylight hours of the year	2

		CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	2 POINTS (MAX)					
		Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant	Tier 2: Building Design Dependant

# L07

## VISUAL BALANCE



This WELL feature requires projects to develop and implement strategies to create a visually comfortable lighting environment.

• *Verified by Professional Narrative*

### PART 1: BALANCE VISUAL LIGHTING

#### Option 1: Parameters for visual balance

Ambient lighting in all regularly occupied spaces meets at least three of the following requirements:

1. Horizontal and vertical luminance contrast ratios for an ambient light system is no more than 10 between adjacent independantly controlled zones.
2. Illuminance uniformity ratio of at least 0.4 or 1:2.5 (minimum light level: average light level) is achieved on any horizontal task plane within a space.
3. Automatic changes in lighting characteristics, such as light levels, changes in colour and distribution take place over a period of 10 minutes.
4. The Correlated Colour Temperature (CCT) in each room for similar fixtures is consistent ( $\pm 200$  K) at any point of time.

#### Option 2: Design for visual balance

Lighting is designed by a lighting professional and takes into account the following considerations:

1. Luminance ratios on vertical and horizontal adjacent zones.
2. Illuminance uniformity on horizontal task planes.
3. Changes in lighting characteristics, such as light levels, changes in colour and distribution.
4. Colour temperature of lights used.

	CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	1 POINTS				
	✓	✓	✓	✓	✓
	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant

# L08

## ELECTRICAL LIGHT QUALITY

This WELL feature requires projects to take into account characteristics of electric light used in the space, such as colour rendering and flicker.

• *Verified by Technical Document*

### PART 1: ENHANCE COLOUR RENDERING QUALITY

All luminaires (except decorative fixtures, emergency lights and other special-purpose lighting) meet at least one of the following colour rendering requirements. If tunable white lighting is used, the requirements are met at 1,000K intervals from the lower end (with a minimum of 2,700K) to the higher end (with a maximum of 5,000k):

- CRI  $\geq 90$ .
- CRI  $\geq 80$  with R9  $\geq 50$ .
- IES Rf  $\geq 78$ , IES Rg  $\geq 100$ , -1%  $\leq$  IES Rcs,h1  $\leq 15\%$

### PART 2: MANAGE FLICKER

All luminaires, in combination with the appropriate controls (except decorative lights, emergency lights and other special-purpose lighting), used in regularly occupied spaces meet at least one of the following flicker requirements:

- Classified as “reduced flicker operation” per California Title 24, when tested according to the requirements in Joint Appendix JA-10.
- Recommended practices 1, 2 or 3 as defined by IEEE standard 1789-2015 LED.
- Pst LM  $\leq 1.0$  and SVM  $\leq 0.6$  for indoor applications per NEMA 77-2017.

		CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	1 POINT	✓	✓	✓	✓	✓
		CRI = 81 R9 = 60	CRI = 81 R9 = 60	CRI = 81 R9 = 60	CRI = 81 R9 = 60	CRI = 81 R9 = 60
PART 2	2 POINTS	✓	✓	✓	✓	✓
		Pst LM $\leq 1.0$ and SVM $\leq 0.6$ for indoor applications	Pst LM $\leq 1.0$ and SVM $\leq 0.6$ for indoor applications	Pst LM $\leq 1.0$ and SVM $\leq 0.6$ for indoor applications	Pst LM $\leq 1.0$ and SVM $\leq 0.6$ for indoor applications	Pst LM $\leq 1.0$ and SVM $\leq 0.6$ for indoor applications

# L09

## OCUPANT LIGHTING CONTROL



This WELL feature requires projects to implement innovative lighting strategies that take into account personal preferences of users, as well as their interaction with the physical space.

• Verified by Technical Document and Professional Narrative

### PART 1: ENHANCE OCCUPANT CONTROLABILITY

#### 1: Lighting Zones

Ambient lighting systems meet the following requirement:

All regularly occupied spaces contain lighting zones as shown in the table below (note: individual rooms smaller than the areas below and/or that have occupancies less than those listed in the table are considered separate zones):

Tier	Number of Zones		Number of Zones	pts
1	One per 650 ft <sup>2</sup>	OR	One per 10 occupants	1
2	One per 320 ft <sup>2</sup>	OR	One per 5 occupants	2

#### 2: Lighting Control System

Each lighting zone meets the following requirements:

a) Lighting systems have at least three lighting levels or scenes that allow for changes in light levels and have the ability to change at least one of the following:

- Colour.
- Colour temperature.

- Distribution of light by controlling different groups of lights or through preset scenes.
- b) All regular occupants have control over their immediate lighting environment through at least one of the following:
- Manual controls (e.g. switches or control panels) located in the same space as each lighting zone.
  - Digital interface available on a computer or phone.
- c) Lighting for presentation or projection walls are separately controlled.

### PART 2: PROVIDE SUPPLEMENTAL LIGHTING

#### 1: Supplemental lighting requirements

The following requirements are met:

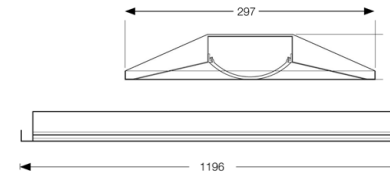
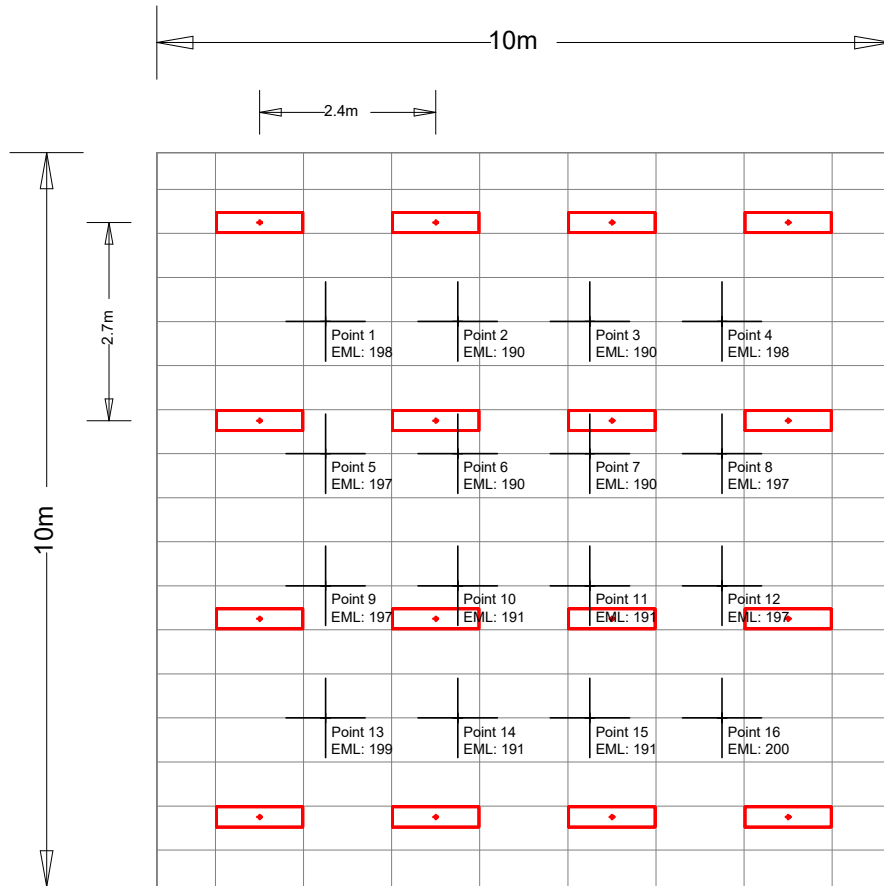
- a) Occupants are provided supplemental lighting, the light fixtures provided increase the light level on the task surface to at least twice the recommended light levels based on the reference used to meet Feature L02: Visual Lighting Design, Part 1.
- b) The supplemental light fixture is positioned to create minimal visual discomfort for the occupant or per manufacturer recommendations for installation.

		CULTURA BV SOFT CURVED	CULTURA BV DUO CURVED	CULTURA BV BASE	CULTURA BV PLUS	CULTURA BV SOFT FLAT
PART 1	COMPONENT 1	✓	✓	✓	✓	✓
		Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant
	COMPONENT 2	✓	✓	✓	✓	✓
		Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant
PART 2	1 POINT	✓	✓	✓	✓	✓
	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant	Lighting Design Dependant

# SAMPLE DESIGNS

## CULTURA SOFT CURVED BV

WELL V2, Q2 2021



### LUMINAIRE SCHEDULE

Symbol	Qty	Label	MF	Luminaire Watts	Luminaire Lumens
	16	Cultura-Soft-Curved- BV-1200-300-840-ETD	0.800	28.5	3130

### CALCULATION SUMMARY

Label	Calc Type	Units	Avg	Max	Min	Min/Avg
10m x 10m Office_700mm Workplane	Illuminance	Lux	364.7	437.2	278.0	0.8
Vertical - 0° - 1200mm AFFL	Illuminance	Lux	186.9	222.4	163.2	0.9
Vertical - 90° - 1200mm AFFL	Illuminance	Lux	211.2	248.9	172.4	0.8
Vertical - 180° - 1200mm AFFL	Illuminance	Lux	187.4	222.8	164.5	0.9
Vertical - 270° - 1200mm AFFL	Illuminance	Lux	213.6	254.6	175.4	0.8

### LPD AREA SUMMARY

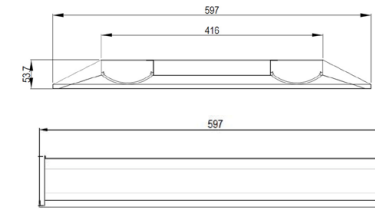
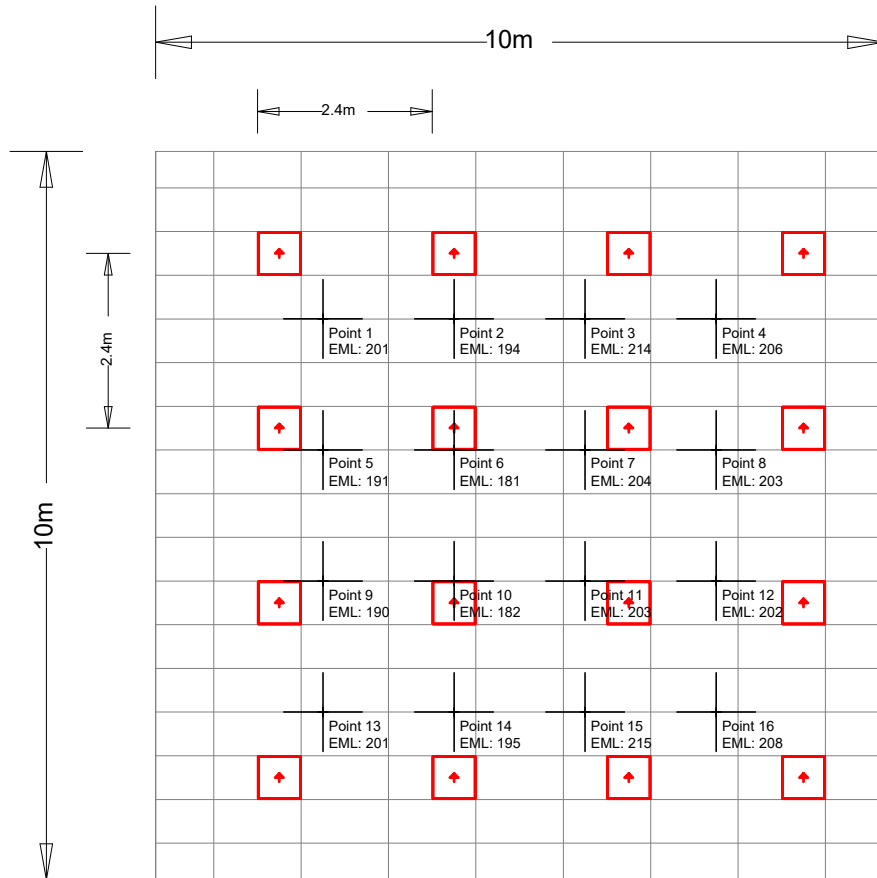
Label	Area	Total Watts	LPD
10m x 10m Office_LP	100	456	4.5

### Room Surface Summary

Room	Label	Typical Reflectance
10m x 10m Office	Floor	0.20
	Wall	0.50
	Ceiling	0.70

Note all ceiling heights are at 2.7m

## CULTURA DUO CURVED BV



### LUMINAIRE SCHEDULE

Symbol	Qty	Label	MF	Luminaire Watts	Luminaire Lumens
⬆	16	Cultura-Duo-Curved- BV-600-600-3120-840-ETD	0.800	28.5	3120

### CALCULATION SUMMARY

Label	Calc Type	Units	Avg	Max	Min	Min/Avg
10m x 10m Office_700mm Workplane	Illuminance	Lux	395.6	457.4	315.3	0.8
Vertical - 0° - 1200mm AFFL	Illuminance	Lux	195.7	267.4	140.4	0.7
Vertical - 90° - 1200mm AFFL	Illuminance	Lux	200.4	232.5	166.7	0.8
Vertical - 180° - 1200mm AFFL	Illuminance	Lux	213.7	262.3	171.2	0.8
Vertical - 270° - 1200mm AFFL	Illuminance	Lux	202.2	235.8	169.6	0.8

### LPD AREA SUMMARY

Label	Area	Total Watts	LPD
10m x 10m Office_LP	100	456	4.5

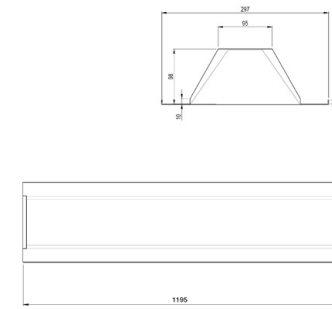
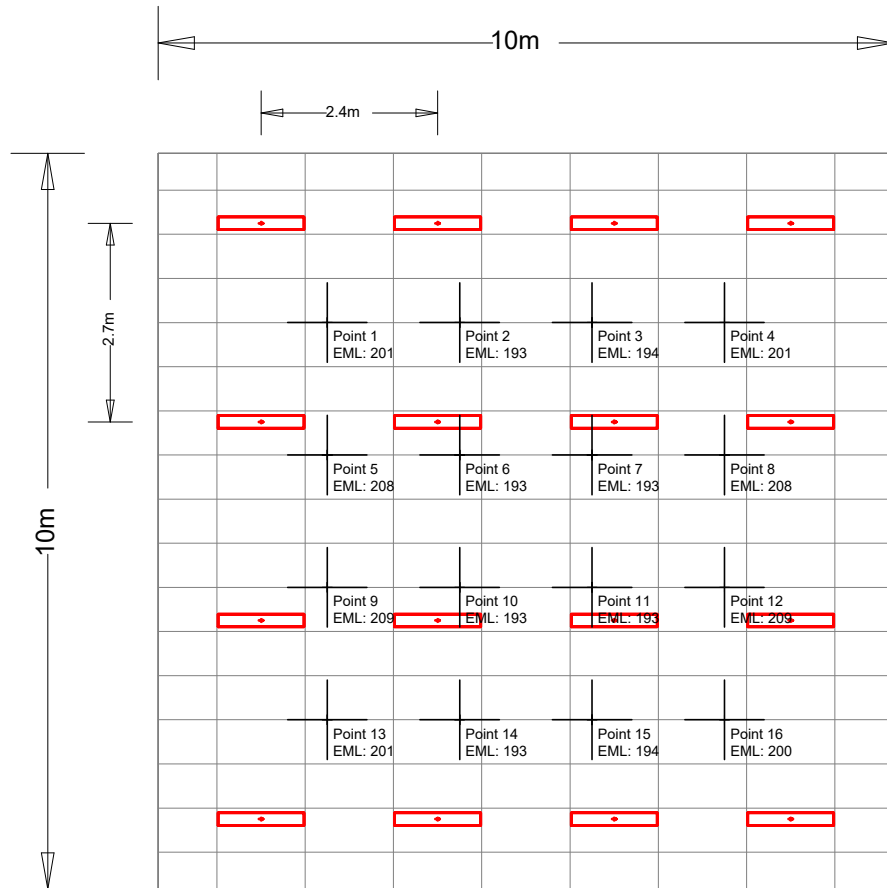
### Room Surface Summary

Room	Label	Typical Reflectance
10m x 10m Office	Floor	0.20
	Wall	0.50
	Ceiling	0.70

Note all ceiling heights are at 2.7m



## CULTURA BASE BV



### LUMINAIRE SCHEDULE

Symbol	Qty	Label	MF	Luminaire Watts	Luminaire Lumens
	16	Cultura-Base- BV-1200-300-3350-830-ETD	0.800	28.5	3350

### CALCULATION SUMMARY

Label	Calc Type	Units	Avg	Max	Min	Min/Avg
10m x 10m Office_700mm Workplane	Illuminance	Lux	402.1	505.4	293.5	0.7
Vertical - 0° - 1200mm AFFL	Illuminance	Lux	192.5	227.3	167.5	0.9
Vertical - 90° - 1200mm AFFL	Illuminance	Lux	212.6	254.8	163.6	0.8
Vertical - 180° - 1200mm AFFL	Illuminance	Lux	194.0	230.0	168.5	0.9
Vertical - 270° - 1200mm AFFL	Illuminance	Lux	210	253.3	161.8	0.8

### LPD AREA SUMMARY

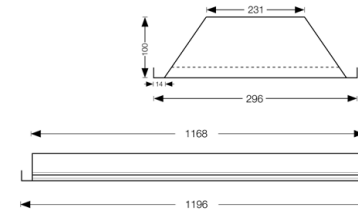
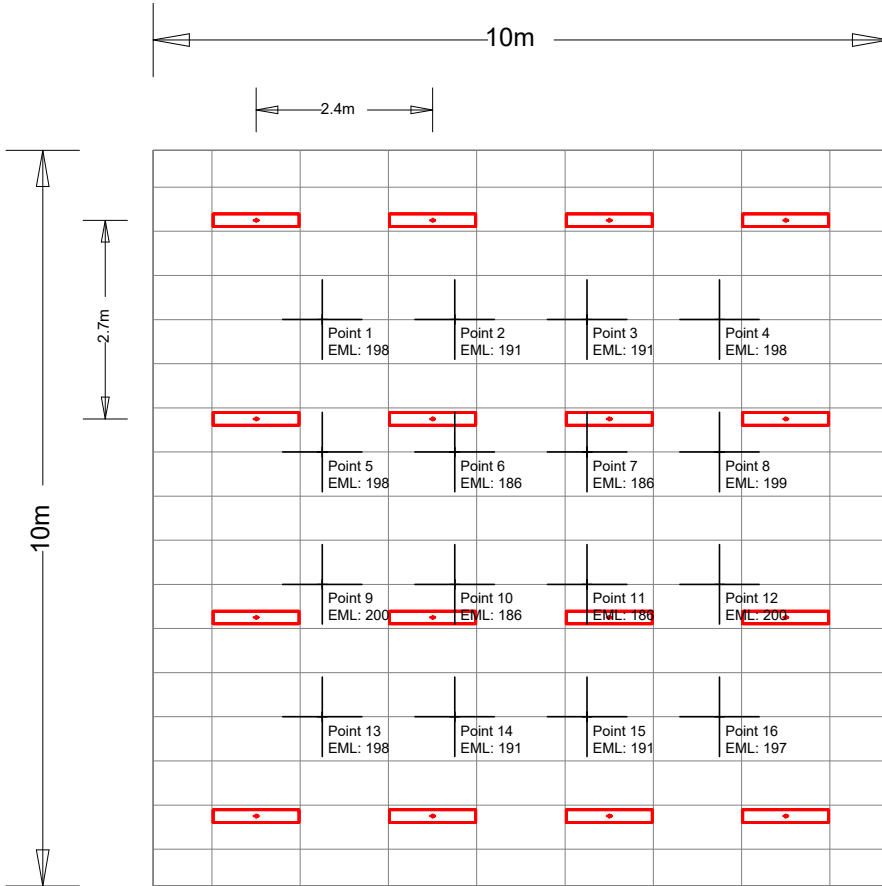
Label	Area	Total Watts	LPD
10m x 10m Office_LP	100	456	4.5

### Room Surface Summary

Room	Label	Typical Reflectance
10m x 10m Office	Floor	0.20
	Wall	0.50
	Ceiling	0.70

Note all ceiling heights are at 2.7m

# CULTURA PLUS BV



## LUMINAIRE SCHEDULE

Symbol	Qty	Label	MF	Luminaire Watts	Luminaire Lumens
	16	Cultura-Plus- BV-1200-300-3200-830-ETD	0.800	29	3200

## CALCULATION SUMMARY

Label	Calc Type	Units	Avg	Max	Min	Min/Avg
10m x 10m Office_700mm Workplane	Illuminance	Lux	385.6	474.8	286.7	0.7
Vertical - 0° - 1200mm AFFL	Illuminance	Lux	187.7	221.4	165.3	0.9
Vertical - 90° - 1200mm AFFL	Illuminance	Lux	205.4	240.4	158.2	0.8
Vertical - 180° - 1200mm AFFL	Illuminance	Lux	188.6	223.0	164.9	0.9
Vertical - 270° - 1200mm AFFL	Illuminance	Lux	202.1	237.2	153.3	0.8

## LPD AREA SUMMARY

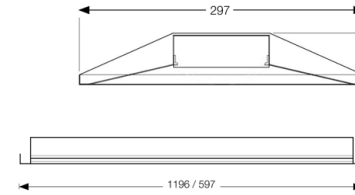
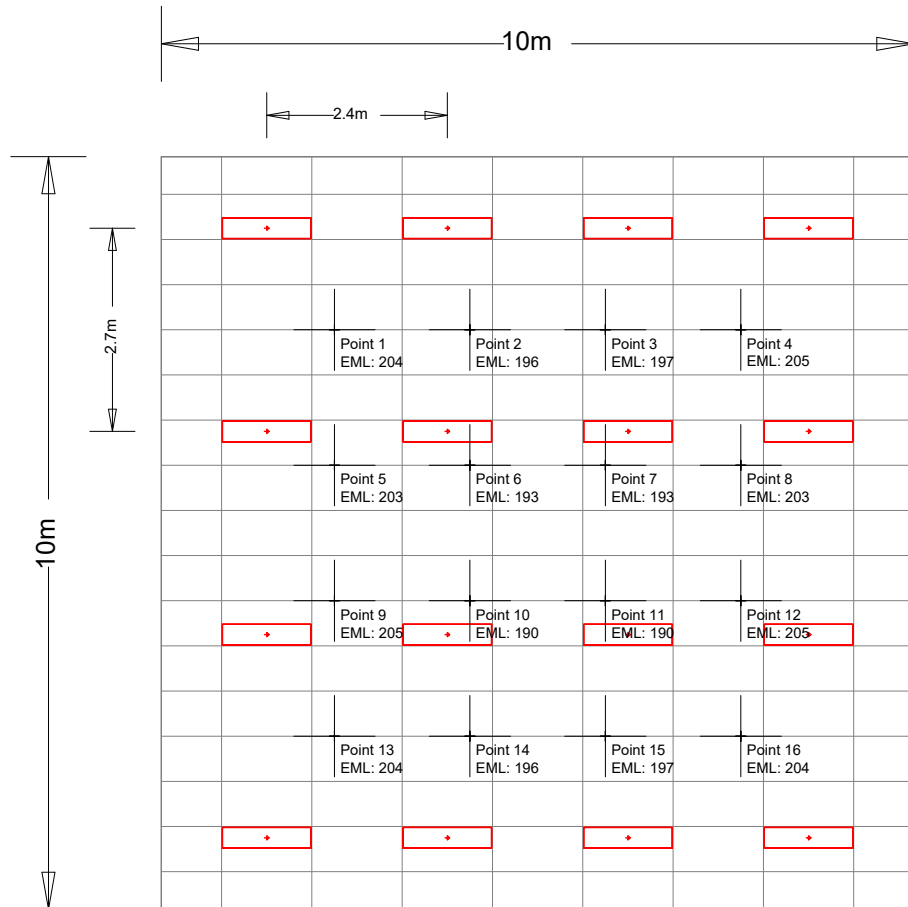
Label	Area	Total Watts	LPD
10m x 10m Office_LP	100	464	4.6

## Room Surface Summary

Room	Label	Typical Reflectance
10m x 10m Office	Floor	0.20
	Wall	0.50
	Ceiling	0.70

Note all ceiling heights are at 2.7m

## CULTURA SOFT FLAT BV



### LUMINAIRE SCHEDULE

Symbol	Qty	Label	MF	Luminaire Watts	Luminaire Lumens
	16	CULTURA-SOFT-FLAT-BV-1200-300-3250-840-ETD	0.800	32.5	3250

### CALCULATION SUMMARY

Label	Calc Type	Units	Avg	Max	Min	Min/Avg
10m x 10m Office_700mm Workplane	Illuminance	Lux	388.8	472.2	291.9	0.8
Vertical - 0° - 1200mm AFFL	Illuminance	Lux	192.8	229.3	169.4	0.9
Vertical - 90° - 1200mm AFFL	Illuminance	Lux	216.2	255.1	171.7	0.8
Vertical - 180° - 1200mm AFFL	Illuminance	Lux	193.3	230.0	169.2	0.9
Vertical - 270° - 1200mm AFFL	Illuminance	Lux	209.7	243.0	163.5	0.8

### LPD AREA SUMMARY

Label	Area	Total Watts	LPD
10m x 10m Office_LP	100	525	5.2

### Room Surface Summary

Room	Label	Typical Reflectance
10m x 10m Office	Floor	0.20
	Wall	0.50
	Ceiling	0.70

Note all ceiling heights are at 2.7m

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INSPIRED LIGHT

