

6AM

7AM

8AM

9AM

10AM

11AM

12PM

1PM

2PM

3PM

4PM

5PM

6PM

HUMANCENTRIC

carclo
Optics



CIRCADIAN LIGHTING

The aim of Circadian Lighting is to mimic the daylight cycle by managing the blue colour wavelength to enable optimum efficiency and rest. This follows the 24-hour internal body clock that governs many natural functions, including waking and sleeping. It also influences internal systems such as metabolism.

Blue light exposure at night has long been known to be a health hazard. It suppresses melatonin, the body's sleep-wake hormone, and causes circadian disruption. It is linked to an increased risk of sleep disorders, obesity, diabetes, and breast and prostate cancer making the benefits of anything that counteracts this obvious.

The International WELL Building Institute (IWBI) established the WELL Building Standard to lead the design of buildings and communities to enhance comfort, health and well-being.

This new technology can be applied to many scenarios and could go a long way to improving general feelings of content - optimising productivity and inner peace.

In this brochure, we detail a few applications already mirroring nature in technology and detail some of the associated benefits. These include:

- OFFICE LIGHTING
- LIVING ENVIRONMENTS
- RETAIL LIGHTING
- SCHOOLS/UNIVERSITIES
- RESIDENTIAL HOMES
- HOSPITALS
- MENTAL HEALTH WARDS
- PRISON CELLS



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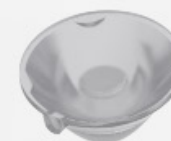
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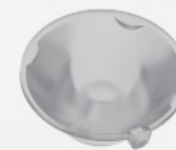
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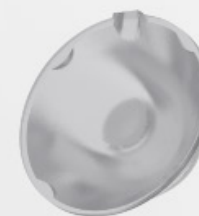
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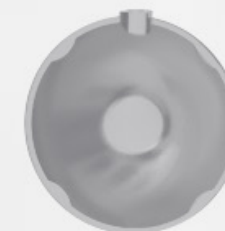
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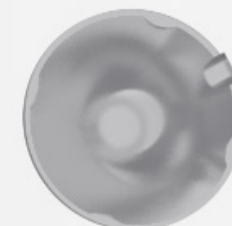
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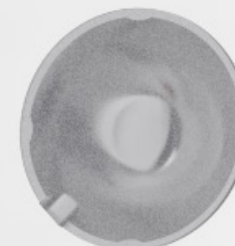
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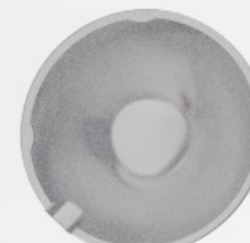
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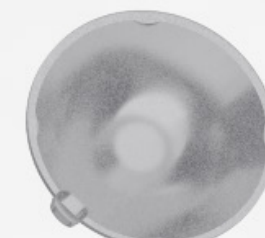
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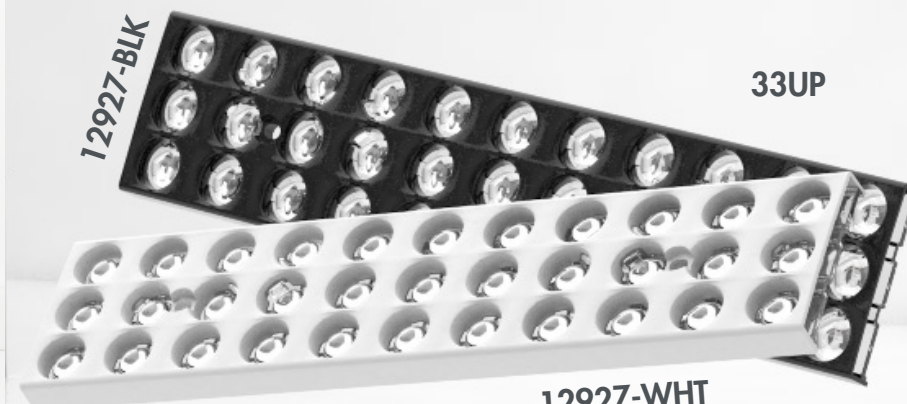


10757



10758

12927-BLK



33UP

12927-WHT

APPLICATIONS

Office Lighting

The majority of offices operate throughout the central hours of the day but due to economic factors and ageing infrastructures, many have poor lighting. This can lead to lower levels of attention resulting in a general deterioration of quality in output as the day progresses. The right lighting can be used to counteract these results and can even increase productivity amongst office workers.



Living Environments

In contrast to the office environment, circadian lighting can be used to promote a good night's sleep by minimising the blue light that encourages brain activity. Units are available to mimic the sun's natural light levels throughout the day, and in the future, it will be standard for all lighting to be programmable ensuring the best settings for each use case.

Schools/Universities

Perhaps nowhere is as important when it comes to lighting as education establishments. Children need to be as focused as possible whilst learning and it takes little to distract young minds. When tiredness is added to the mix the risk is that an enormous amount of school hours can prove ineffectual. Well lit classrooms and carefully considered programmable light patterns can make all the difference.



APPLICATIONS

Hospitals

The body takes its cues from nature and this is essential when in the process of recovery. Studies show that the healing process following surgery can be shortened considerably when circadian lighting is used.

Mental Health Wards

Given the nuanced and sensitive nature of care provided in mental health wards, the positive effects of human centric lighting is of paramount importance and can aid both recovery and stabilisation of the residents.



Prison Cells

With tensions already fairly high amongst incarcerated individuals, mood enhancing human centric lighting can help stabilise the circadian rhythm and minimise further disruption, often encouraged in prisons with poor lighting.

Residential Care Home

The restricted movement that can accompany old age often leads to more time spent indoors. In this setting, human centric lighting can really help enhance the mood of those unable to venture outside.

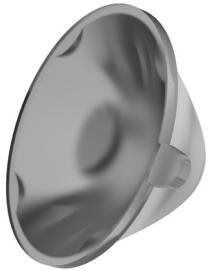


The Optics

HUMANCENTRIC

The following optics have been used to achieve the myriad of results presented in this brochure. For more info or to enquire about volume orders, please contact the team directly via email: sales@carclo-optics.com or by phone: + (0)1753 575 011

10138



Family: 20mm
Type: TIR
Diameter: 20mm
Beam: Narrow Spot
Finish: Frosted

10139



Family: 20mm
Type: TIR
Diameter: 20mm
Beam: Medium Spot
Finish: Frosted

10140



Family: 20mm
Type: TIR
Diameter: 20mm
Beam: Wide Spot
Finish: Frosted

10124



Family: 26.5mm
Type: TIR
Diameter: 26.5mm
Beam: Narrow Spot
Finish: Frosted

10108



Family: 26.5mm
Type: TIR
Diameter: 26.5mm
Beam: Medium Spot
Finish: Frosted

10260



Family: 26.5mm
Type: TIR
Diameter: 26.5mm
Beam: Wide Spot
Finish: Frosted

10756



Family: 30mm
Type: TIR
Diameter: 30mm
Beam: Narrow Spot
Finish: Frosted

10757



Family: 30mm
Type: TIR
Diameter: 30mm
Beam: Medium Spot
Finish: Frosted

10758



Family: 30mm
Type: TIR
Diameter: 30mm
Beam: Wide Spot
Finish: Frosted

12927 -WHT / -BLK



Family: 33UP
Type: Freeform
Finish: Plain

Beam: Medium Spot
Colour: Black or White
Dimensions: 292 x 61mm

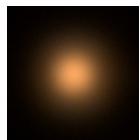
carclo
Optics

Optic
Select



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cd/lm: 4.0

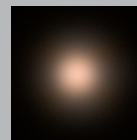
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3000K



4000K



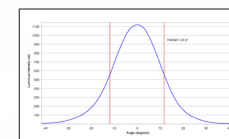
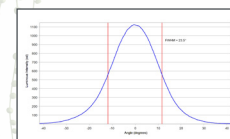
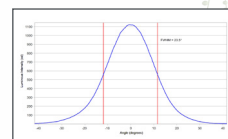
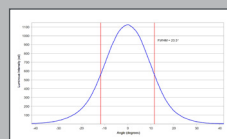
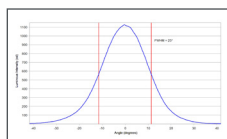
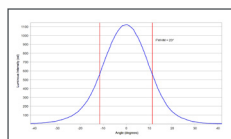
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6000K



6500K



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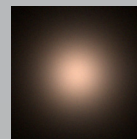
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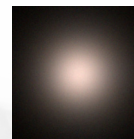
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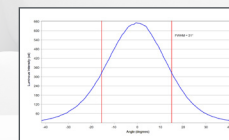
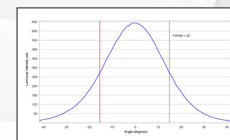
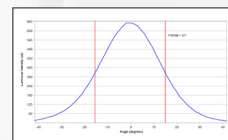
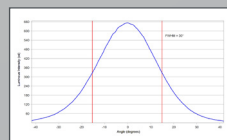
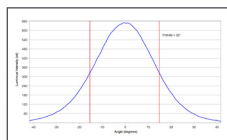
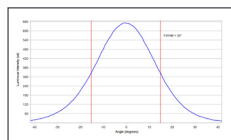
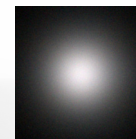
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6000K



6500K



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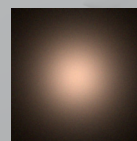
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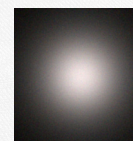
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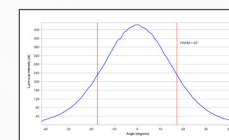
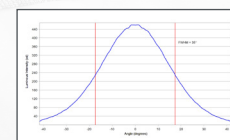
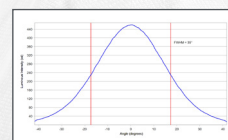
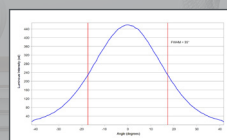
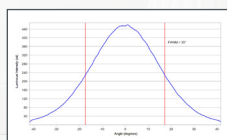
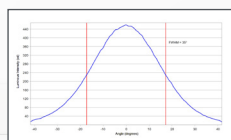
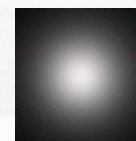
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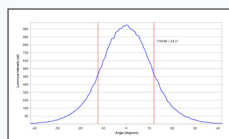
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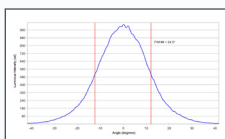


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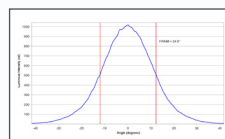
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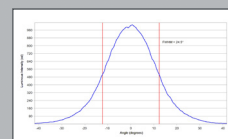
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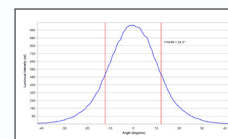
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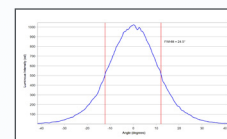
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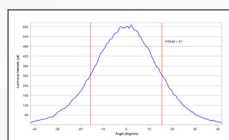


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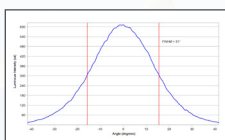


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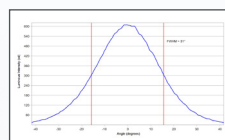
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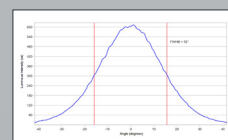
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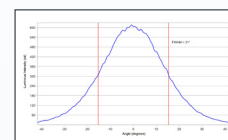
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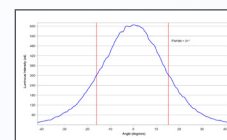
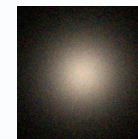
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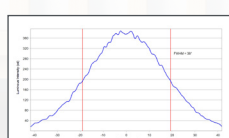
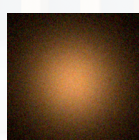


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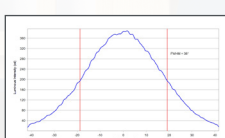
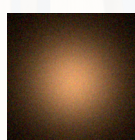


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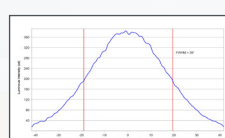
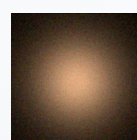
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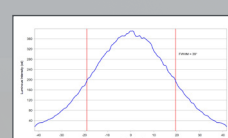
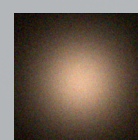
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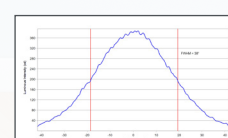
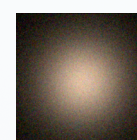
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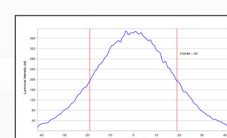
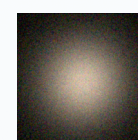
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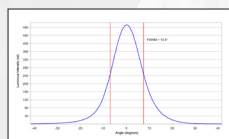
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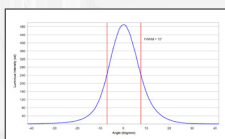


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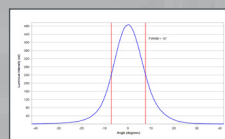
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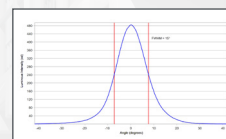
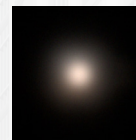
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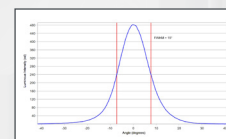
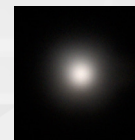
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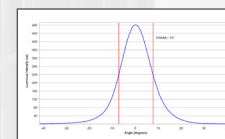
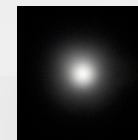
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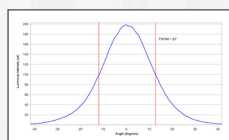


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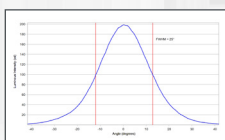


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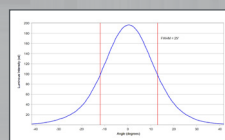
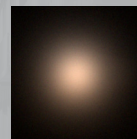
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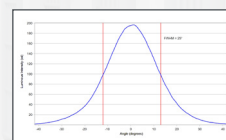
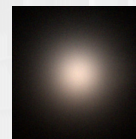
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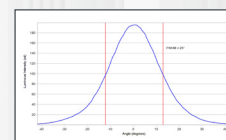
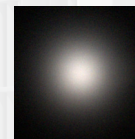
4000K



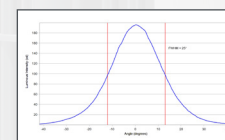
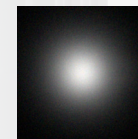
5000K



6000K

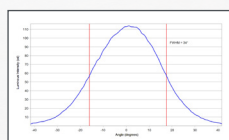
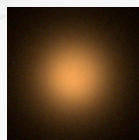


6500K

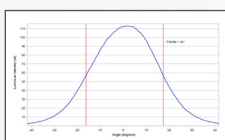


Part No: **10140**
FWHM: 34.0
Efficiency: 83.0
cd/lm: 1.9

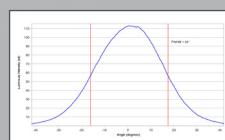
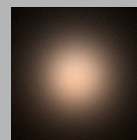
2700K



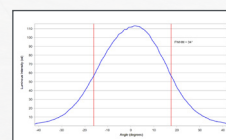
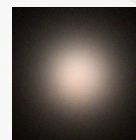
3000K



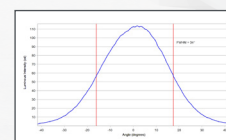
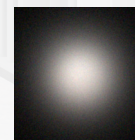
4000K



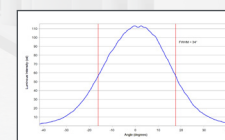
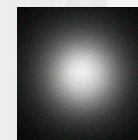
5000K



6000K



6500K





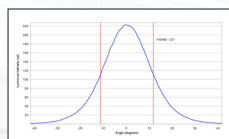
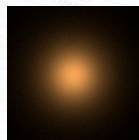
757G MT

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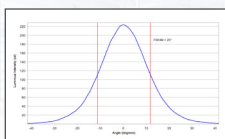


Part No: **10108**
FWHM: 23.0
Efficiency: 86.0
cd/lm: 3.8

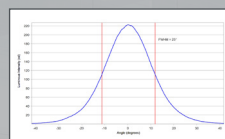
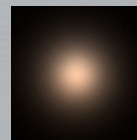
2700K



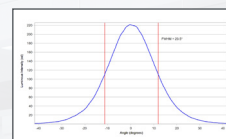
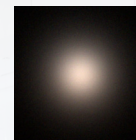
3000K



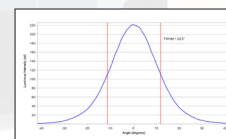
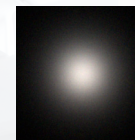
4000K



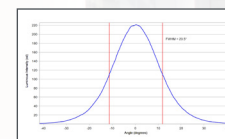
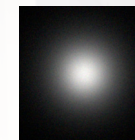
5000K



6000K

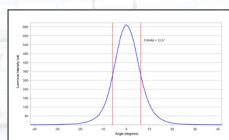


6500K

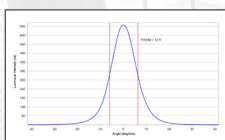


Part No: **10124**
FWHM: 12.5
Efficiency: 86.5
cd/lm: 12.5

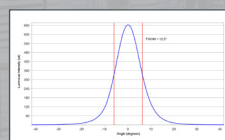
2700K



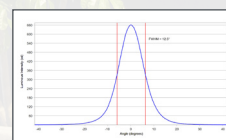
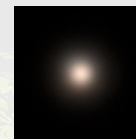
3000K



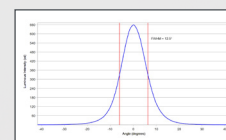
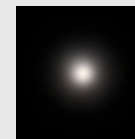
4000K



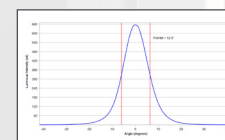
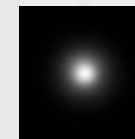
5000K



6000K

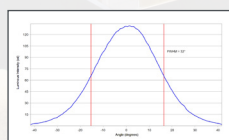


6500K

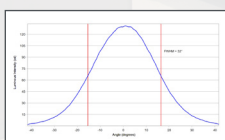


Part No: **10260**
FWHM: 32.0
Efficiency: 85.0
cd/lm: 2.2

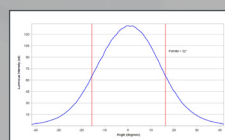
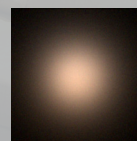
2700K



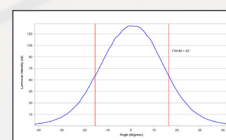
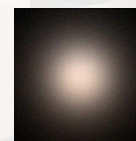
3000K



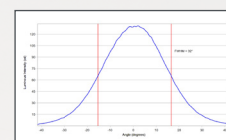
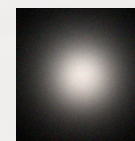
4000K



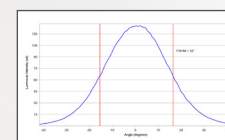
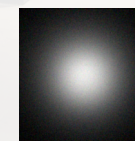
5000K



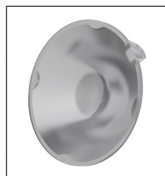
6000K



6500K

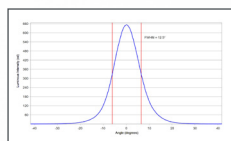


Please Note: All FWHM, efficiency and candelas per lumen captured at 4000 Kelvin.

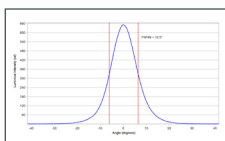


Part No: **10392**
FWHM: 13.0
Efficiency: 87.5
cd/lm: 12.1

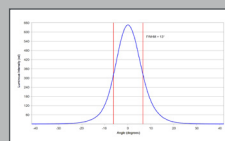
2700K



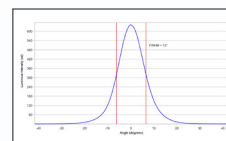
3000K



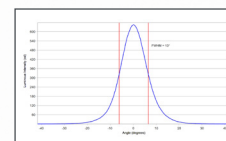
4000K



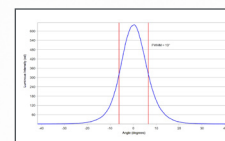
5000K



6000K

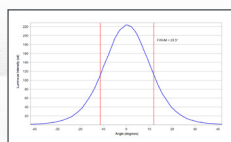


6500K

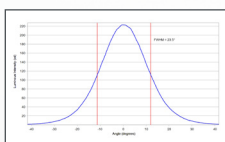


Part No: **10393**
FWHM: 23.5
Efficiency: 87.0
cd/lm: 3.8

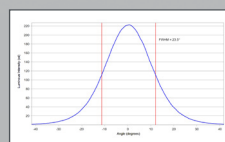
2700K



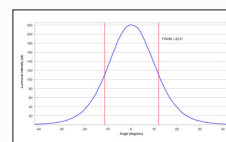
3000K



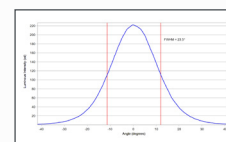
4000K



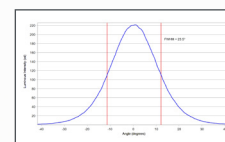
5000K



6000K

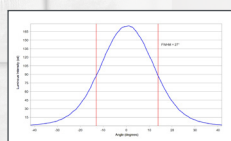


6500K

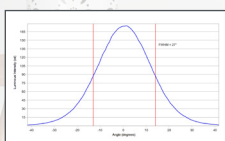


Part No: **10394**
FWHM: 27.0
Efficiency: 86.0
cd/lm: 3.0

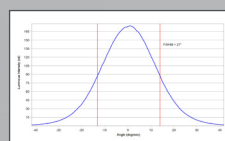
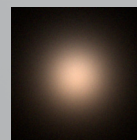
2700K



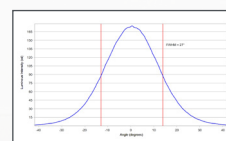
3000K



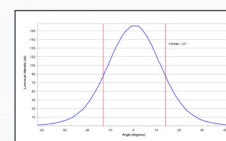
4000K



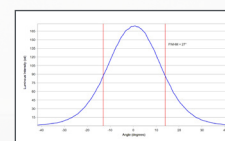
5000K



6000K



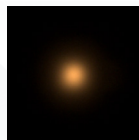
6500K





Part No: **10756**
FWHM: 11.5
Efficiency: 86.0
cd/lm: 14.5

2700K



3000K



4000K



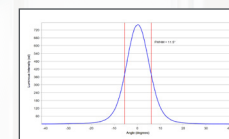
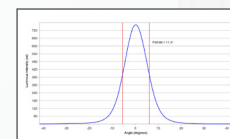
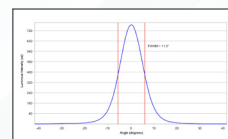
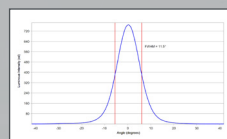
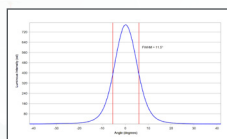
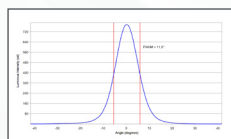
5000K



6000K



6500K



Part No: **10757**
FWHM: 22.5
Efficiency: 85.5
cd/lm: 4.0

2700K



3000K



4000K



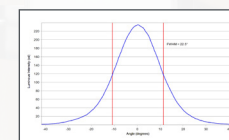
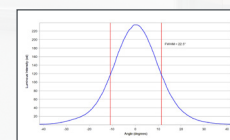
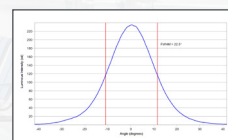
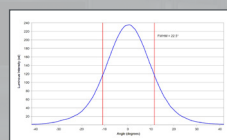
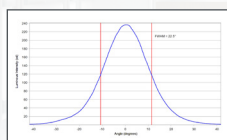
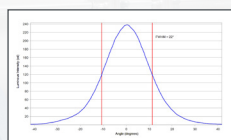
5000K



6000K



6500K



Part No: **10758**
FWHM: 32.0
Efficiency: 82.0
cd/lm: 2.2

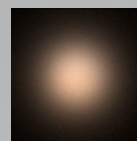
2700K



3000K



4000K



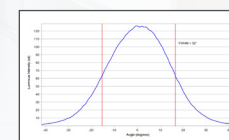
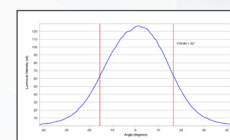
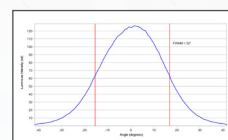
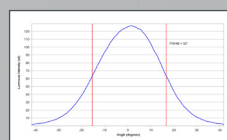
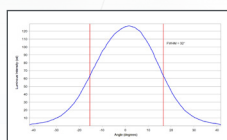
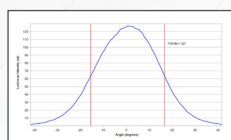
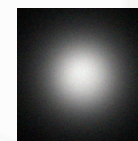
5000K



6000K



6500K





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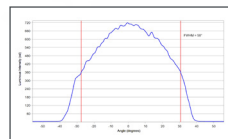
Part No: **12927-WHT**

FWHM: 59.0

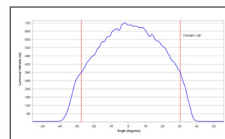
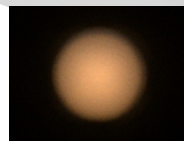
Efficiency: 82.5

cd/lm: 1.4

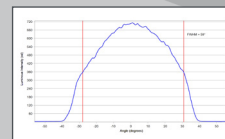
2700K



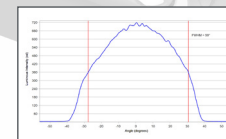
3000K



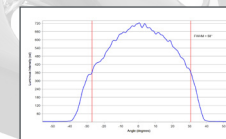
4000K



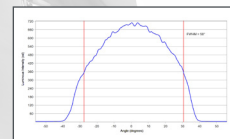
5000K



6000K



6500K

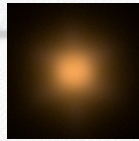


Please Note: All FWHM, efficiency and candelas per lumen captured at 4000 Kelvin.



Part No: **10756**
 FWHM: 26.5
 Efficiency: 85.5
 cd/lm: 2.9

2700K



3000K



4000K



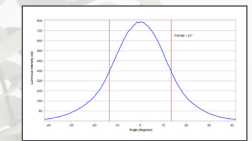
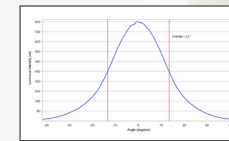
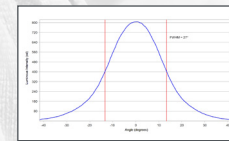
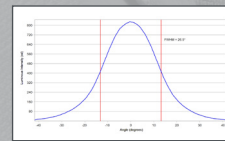
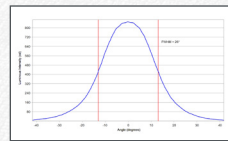
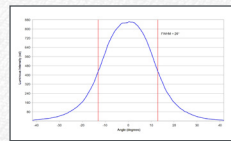
5000K



6000K

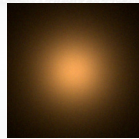


6500K



Part No: **10757**
 FWHM: 33.0
 Efficiency: 85.0
 cd/lm: 1.9

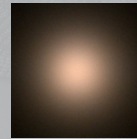
2700K



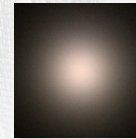
3000K



4000K



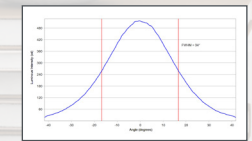
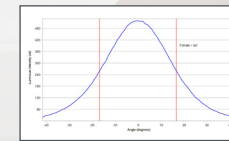
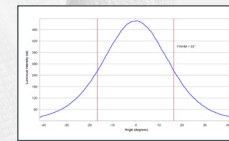
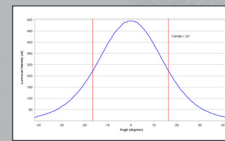
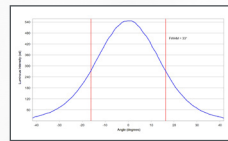
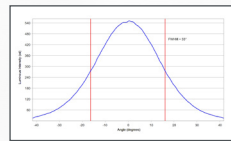
5000K



6000K

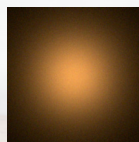


6500K

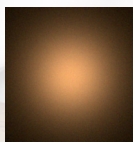


Part No: **10758**
 FWHM: 42.0
 Efficiency: 80.0
 cd/lm: 1.2

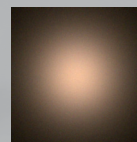
2700K



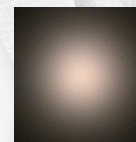
3000K



4000K



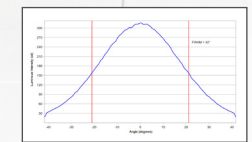
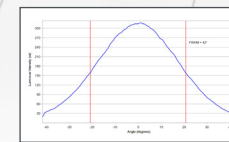
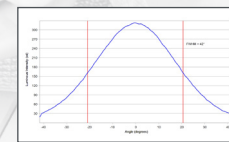
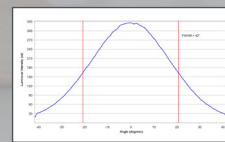
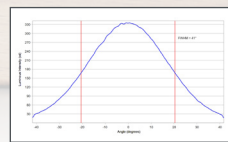
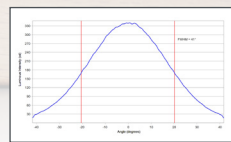
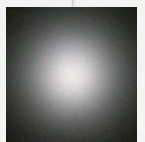
5000K

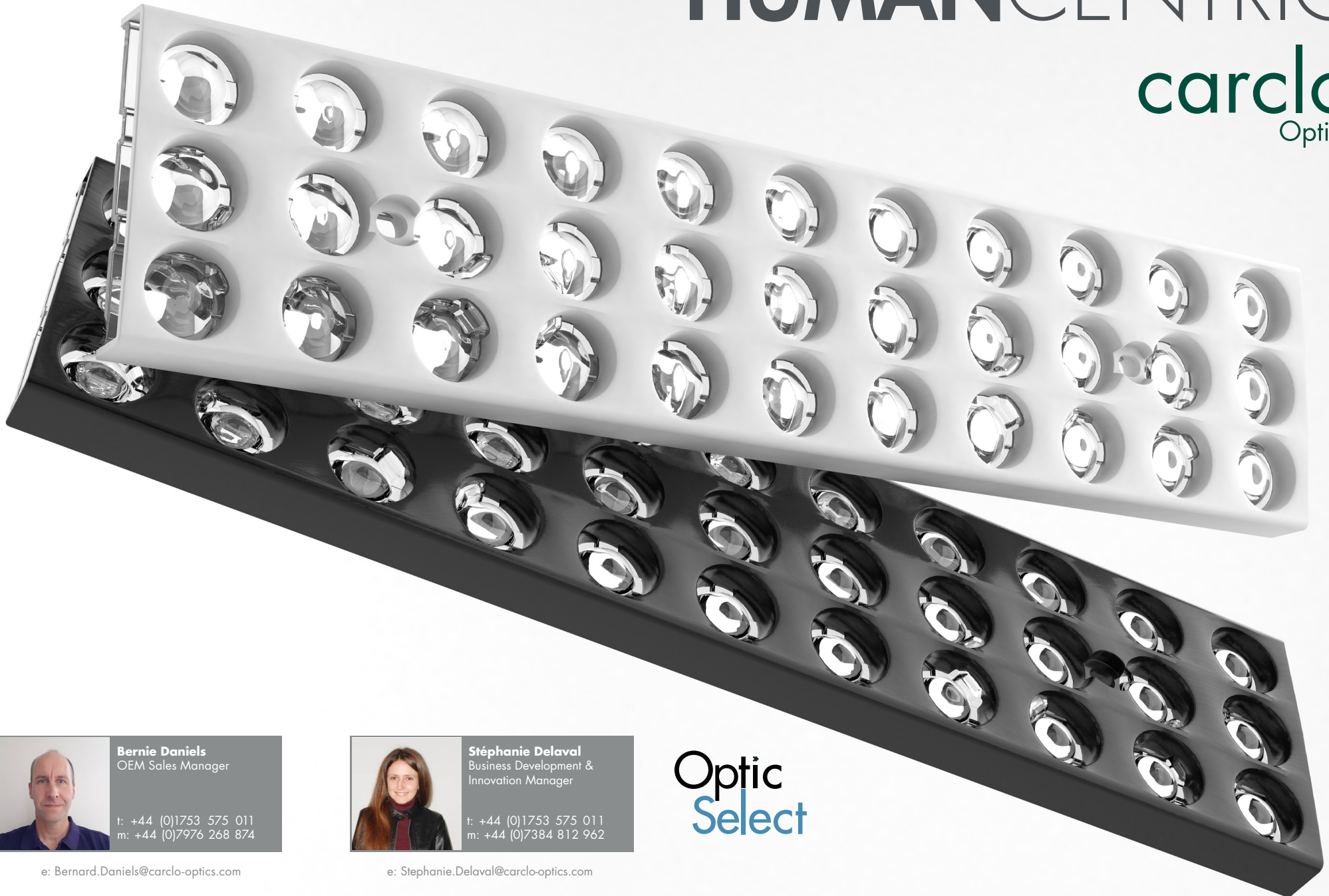


6000K



6500K





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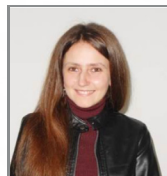
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