



# SSC

## **Carclo Technical Plastics**

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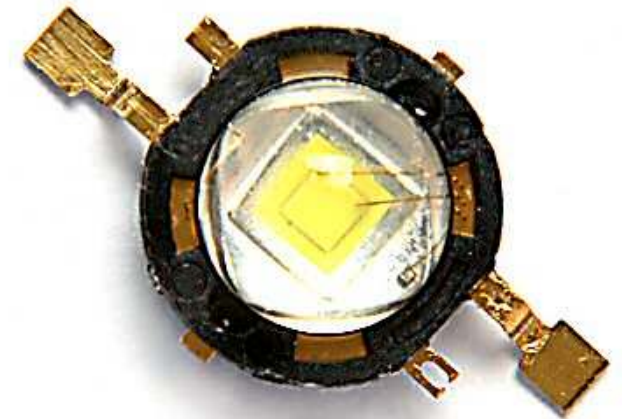
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März 13, 2009



# Seoul Semiconductor P4 20 & 26.5mm Range



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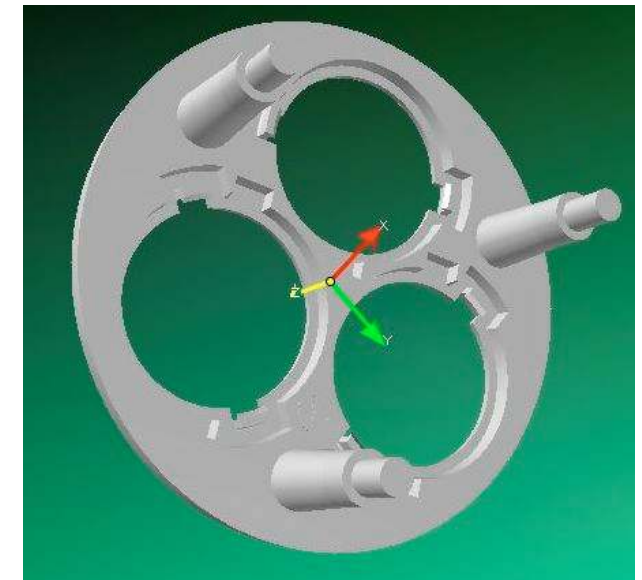


# Seoul Semiconductor P4<sup>®</sup> 20mm range

Part No.	Description	FWHM#	EFF	Cd/lm
10003	Plain Tight beam Optic	9.5	87.7%	12.5
10138	Frosted Narrow beam Optic	15.4	82%	4.41
10003/15	Ripple medium Optic	27.3	89%	3.4
10139	Frosted Medium beam Optic	23.8	80%	2.46
10003/25	Ripple Wide optic	41.4	88%	1.6
10140	Frosted Wide beam Optic	42.7	74.%	0.9
10170	Wide reflector	80.9	92%	0.82
10003/L25	Elliptical beam Optic	44 X 15	81%	2.1
10192	Elliptical 90degbeam Optic r	14 X 49	81%	2.13
10034	Fibre Lens	Optimised for coupling 0.5NA bundles of 8 - 12mm diameter		

Part No.	Colour	Description
10363	Black	Round SSC P4
10364	White	Round SSC P4
10365	Clear	Round SSC P4
10043	Black	Star holders SSCP4
10044	White	Star holders SSCP4
10045	Clear	Star holders SSCP4
10273	White	50mm Triple holder long leg
10283	White	50 mm Triple holder short leg
10293	Black	50 mm Triple holder Long leg
10303	Black	50 mm Triple holder short leg

#Full Width Half Maximum i.e. total viewing angle  
White LED measured



# Seoul Semiconductor P4<sup>®</sup> 20mm in holder 10363

Part No.	Description	FWHM#	EFF	Cd/lm
10885	Plain Tight beam Optic in Black holder	9.5	87.7%	12.5
10886	Frosted Narrow beam Optic in Black holder	15.4	82%	4.41
10887	Frosted Medium beam Optic in Black holder	23.8	80%	2.46
10888	Frosted Wide beam Optic in Black holder	42.7	74.%	0.9
10889	Elliptical beam Optic in Black holder	44 X 15	81%	2.1
10890	Elliptical 90degbeam Optic in Black holder	14 X 49	81%	2.13
10891	Wide reflector in black holder	80.9	92%	0.82

#Full Width Half Maximum i.e. total viewing angle  
White LED measured



# Seoul Semiconductor P4<sup>®</sup> 20mm in holder 10043

Part No.	Description	FWHM#	EFF	Cd/lm
10818	Plain Tight beam Optic in Black holder	9.5	87.7%	12.5
10819	Frosted Narrow beam Optic in Black holder	15.4	82%	4.41
10820	Ripple Medium beam optic in black holder	27.3	89%	3.4
10821	Frosted Medium beam Optic in Black holder	23.8	80%	2.46
10822	Ripple Wide beam optic in Black holder	41.4	88%	1.6
10823	Frosted Wide beam Optic in Black holder	42.7	74.%	0.9
10824	Wide reflector in black holder	80.9	92%	0.82
10825	Elliptical beam Optic in Black holder	44 X 15	81%	2.1
10826	Elliptical 90degbeam Optic in Black holder	14 X 49	81%	2.13

#Full Width Half Maximum i.e. total viewing angle  
White LED measured

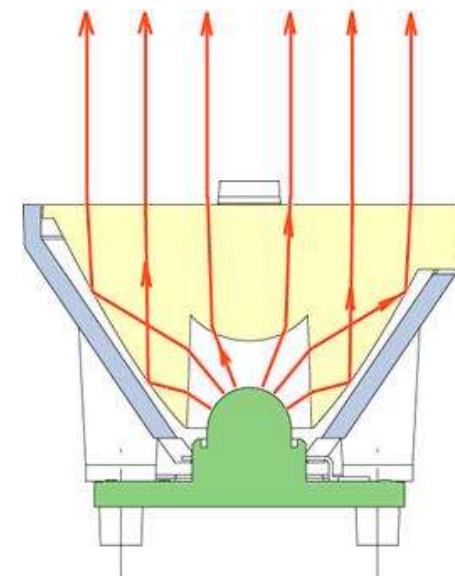


# Seoul Semiconductor P4<sup>®</sup> 26.5mm range

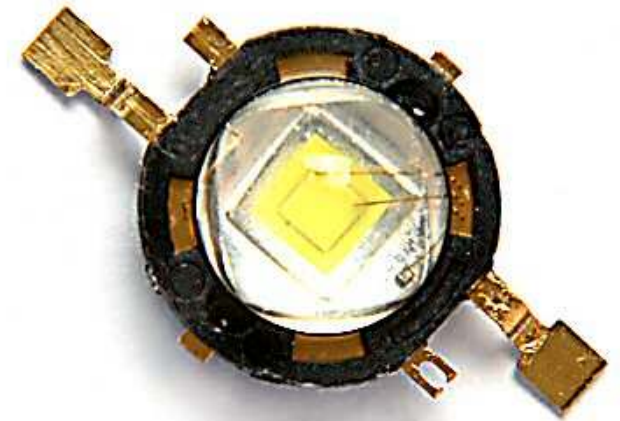
Part No.	Description	FWHM#	EFF	Cd/lm
10048	Plain Tight beam	5.24	89.7%	19.56
10124	Frosted narrow beam	9.6	88%	10.7
10108	Frosted medium beam	20	84%	3.13
10260	Frosted Wide beam	40.5	80%	2.7
10049	Elliptical beam Optic	33 X 7.5	86%	4.14
10224	Elliptical beam turned 90 deg Optic	10.7 X 48	87%	3.79
10234	Elliptical Ramped edges beam Optic	45 X 9.9	87%	4.4

Part No.	Colour	Description
10076	Black	With stake able legs
10077	White	With stake able legs
10111	Black	0.8mm legs
10112	White	0.8mm legs

#Full Width Half Maximum i.e. total viewing angle  
White LED measured



# Seoul Semiconductor P4 other Optics



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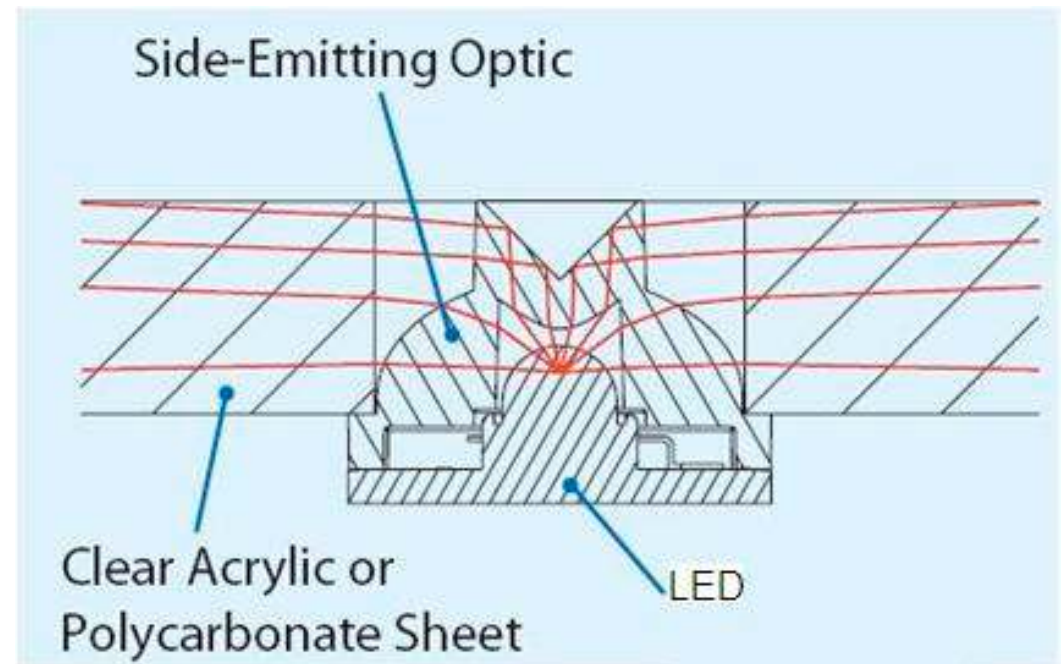
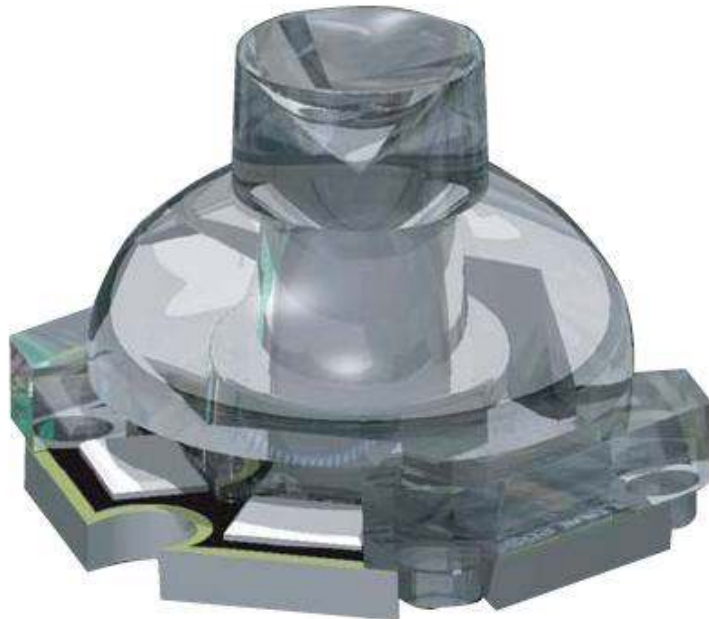
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# Side Emitters for Seoul Semiconductor P4®

Part No.	Description	FWHM#	EFF	Cd/lm
10040	Side emitter for P4 Star board			

#Full Width Half Maximum i.e. total viewing angle  
White LED measured





# 60mm Optic for the Seoul Semiconductor P4<sup>®</sup>

Part no.	Description	FWHM	EFF	Cd/l
10144	60mm Optic			
10144+10145	60mm Optic and Spreader			

#Full Width Half Maximum i.e. total viewing angle  
White LED measured



- We have a holder Part number 10146 which holds the optic 10144 and the spreader lens 10145 in the correct place

- This can be brought as a built up assembly of Optic 10144 and holder 10146 under part number 10147

- New Part 10158 is the same beam angle as the 10144 and the look is the same but due to using a AL coating the efficiency is reduced by about 8% but with big part price savings



# Bubble Optics

## Ultra wide

This is a new design and the start of our range of 'Bubble Optics' these optics produce a very wide but even beam on a flat surface idea for wide area lighting designed for the SSC P4



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# Ultra Wide Angle Optics

## Optics for Producing uniform illuminance over wide areas

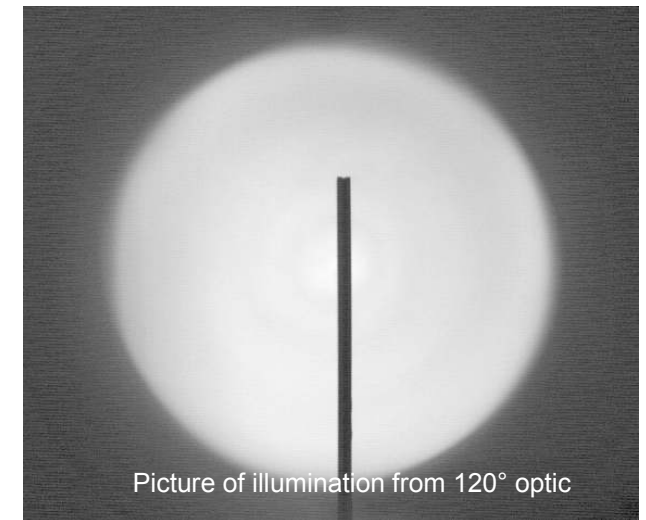
Carclo Ultra Wide Angle Optics are designed to meet the needs of Luminaire designers who need to efficiently light wide areas with very even illumination. These optics are suitable for applications such as emergency lighting, emergency lighting, parking facility illumination and many other general illumination areas.

These optics work by re-mapping the light output from the Led to the far-field. Their hemi-spherical outer shape has given rise to their generic name “Bubble optics”.

Mounted at 2.5m (~8 ft.) the 120° optic will evenly illuminate an area 8m (~26 ft.) in diameter, the 130° optic will illuminate a 10m (~33 ft.) diameter.

## Features

- Beam widths of 120 deg FWHM (Part No. 10403) and 130 deg FWHM (Part No. 10406)
- Greater than 90% efficiency.
- Optimised for Led's with Lambertian 1.5 x 1.5 mm emitting area.
- One piece design SSC P4 and needs a holder to mount to the board.
- Manufactured in lens grade polycarbonate with UL certification.
- Suitable for continuous operation up to 120 °C.



Picture of illumination from 120° optic

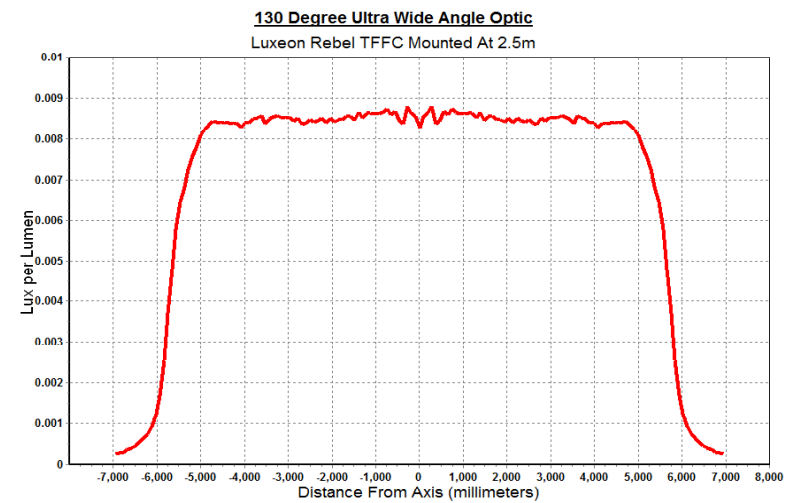
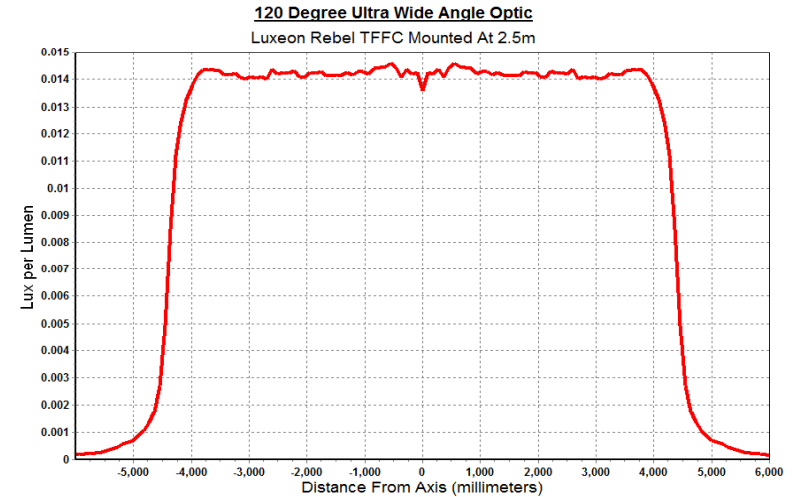
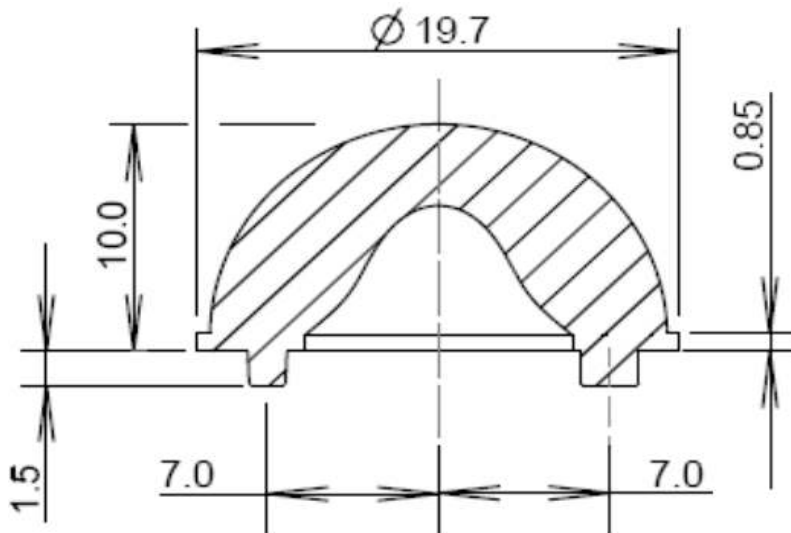
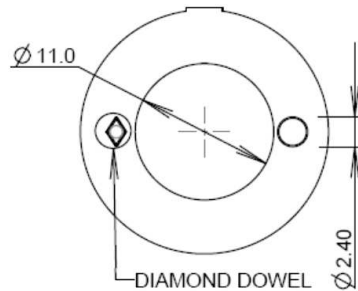
# Application notes

• Arrays of 19.7mm diameter Ultra wide optics should be placed no closer than 27mm between centres to avoid shading.

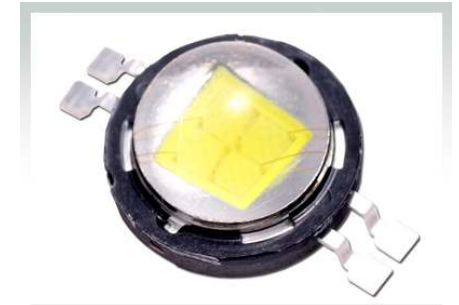
• Always use a very low vapour adhesive such as Loctite 3430 when mounting polycarbonate optics.



LED	120 deg	130 deg	Holder
SSC P4	10403	10406	10384



# Seoul Semiconductor P5 II & Acriche 26.5mm Range



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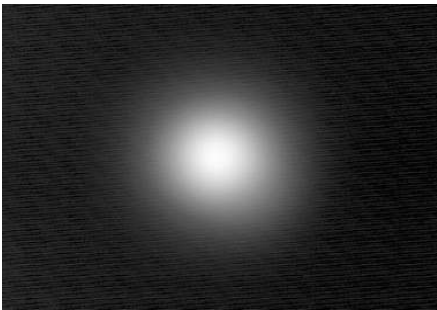
# 26.5mm OPTIC

TYPE	CARCLO OPTIC		Eff	FWHM	Cd/lm
	Part No.	TYPE	%	Deg	
P5-II 	10391	Plain Tight	Not suitable as colours split out		
	10392	Narrow Frosted	82.8	15.4	8.9
	10393	Medium Frosted	79.6	23.9	3.0
	10395	Elliptical			
Acriche A2 	10391	Plain Tight			
	10392	Narrow Frosted			
	10393	Medium Frosted			
	10395	Elliptical			

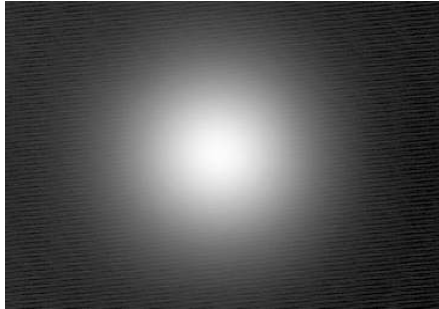
TYPE	WHITE HOLDERS			BLACK HOLDERS		
	4.3 PEG	2.0 PEG	0.8 PEG	4.3 PEG	2.0 PEG	0.8 PEG
P5-II	10442 Not Stocked	10452 Not Stocked	10462 Stocked	10472 Not Stocked	10482 Not Stocked	10492 Not stock
Acriche A2	TBA					



P5 with 10391



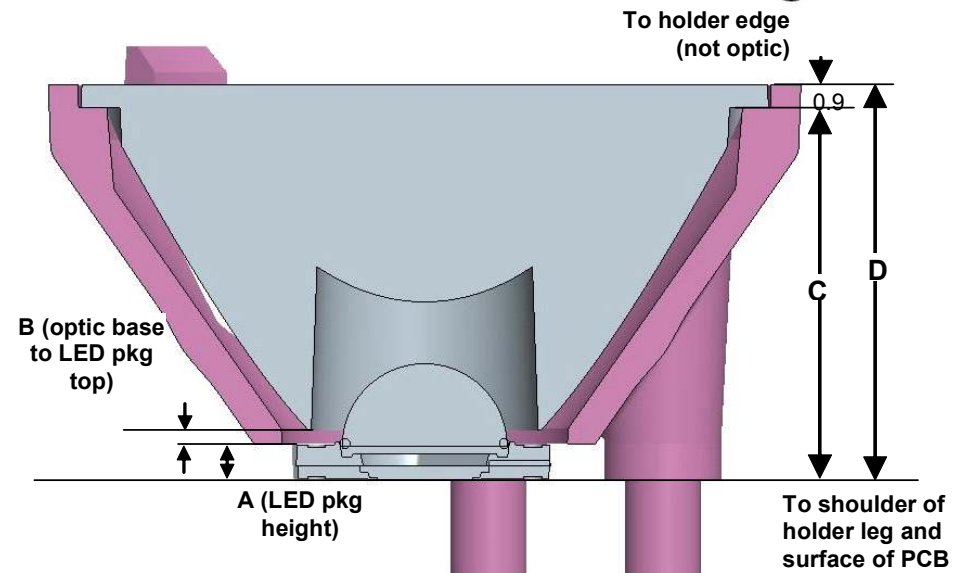
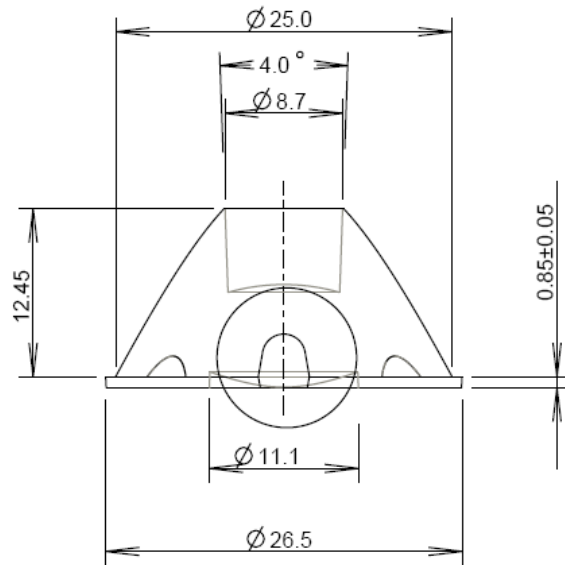
P5 with 10392



P5 with 10393

# 26.5mm Holder details

Part No.	TYPE
10391	Plain Tight
10392	Narrow Frosted
10393	Medium Frosted
10394	Wide Frosted
10395	Elliptical
10396	Elliptical Ortho



## Notes:

- CARCLO multi-chip holder compatible with LED package mounted on 19.9mm (across flats) star board, otherwise drill holes on PCB for location pegs on legs. Refer to Drawing 60475 for hole separation
- The multichip holder leg height includes an extra 1.0mm for the AcuLED since only a 13mm (across flats) star board is available. The CARCLO holder reaches over the AcuLED star board so that the holder sits directly on the PCB (and not the star board).

# 26.5mm Holder location holes

