# **20.0MM NARROW SPOT TIR**

Status Production Part no. 10138 60424 Drawing no. Product type Optic TIR Туре **Pieces** 1 Diameter 20.0 Height 9.90

Beam Narrow Spot

Flange Yes

Files

Customer drawing (PDF)
Customer 3D model

(.igs)



LEDs & Performances	Eff.	FWHM	Cd/Im	Spot	Cross-section	Files
Cree XP-G XLamp White	86.4%	14.3	11.4			10138_cree_xpg_white_250408.ies
Cree MX-6 XLamp White	89.9%	20	5.5			10138_cree_MX6_white_250408.ies
SSC Z1 Z - Power White	84.9%	21.3	4.4			10138_Seoul_Z1_white_250408.ies
Osram Plus W5AM Dragon Cool White	87.3%	12.3	13.4		E30.	10138_Osram_Dragon_PLus_CoolWhite_250408.ldt 10138_Osram_Dragon_PLus_CoolWhite_250408.ies
Osram SSL 80 degree Oslon Ultra White	86.4%	11.5	14.7		E39.	10138_Oslon_wht_250408.ldt 10138_Oslon_wht_250408.ies
Nichia NCSL 119-H3 Top Emitting Warm White	87.0%	12.2	14.3		E-1225 Tax Was Tax	10138_Nichia_119_WarmWhite_250408.ies
SSC Z5 Z - Power Cool White	88.2%	12.3	14.0			10138_Seoul_Z5_white_250408.ies
LedEngin 3W White	86.0%	17.4	5.9		EXP.	10138_LedEngin_3W_white_250408.ies
LedEngin 5W White	85.7%	17.1	5.8		EN.	10138_LedEngin_5W_white_250408.ies
Luminus Devices SST-50 White	84.6%	23.8	3.8		ANI.	10138_Luminus_SST50_White_250408.ies

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Everlight Shuen Warm White	85.7%	14.6	10.8			10138_Shuen_wwht_250408.ies
Everlight Shuen Cool White	86.3%	14	10.3			10138_Shuen_cwht_250408.ies
Avago Jade Cool White	91.6%	16.7	7.6			10138_Avago_Jade_cool white_250408.ies
Lumileds C Luxeon Cool White	85.6%	10.1	19.7			10138_Luxeon C_white_250408.ies
SSC P4 White	85.3%	16.4	7.8		EPL.	10138_Seoul_New_P4_Pure_White_250408.ies
Cree XM-L XLamp White	86.1%	18.6	7.3		Encoder to the second	10138_Cree_XM-L_white_31-01-11.ies
Cree XM-L - EZW XLamp Warm White	86.2%	20.9	4.6			10138_Cree_XM-L - EZW_warm white_200511.ies
Cree XP-C XLamp White	86.8%	9.3	24.8			10138_Cree_XP-C_white_270611.ies
Osram SSL 150 degree Oslon Neutral White	87.3%	11.5	17.3	•		10138_Oslon 150_neutral white_280711.ies
SSC Z5P Z - Power Pure White	%	12.7	14.3			10138_Z5P_pure white_270911.ies
Cree XB-D XLamp Warm White	86.4%	11.5	17.5			10138_CREE XBD_160212.ies
Cree XT-E XLamp Cool White	%	13.86	13.7			10138_CREE XTE_160212.ies
SSC Z5M Z - Power White	84.3%	12.9	13.2			10138_SeoulZ5M_warm white_250612.ies
Cree XPG-Gen2 XLamp Warm White	83.3%	13.4	13.8		5.76.	10138_XPG Gen2_180712.ies
Samsung 3535 White	%	13.4	13.9		are.	10138_Samsung 3535_cool white_081111.ies
Nichia 219 Warm White	83.3%	14.1	12.3			20mm_10138_Nichia 219_120213.ies
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Stanley 1N White	83.0%	19.4	5.9		Lyt.	10138 Narrow Frosted_Stanley 1N_270912.ies
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Related Holders & LEDs	Avag Jade Cool White	©ree MX-6 XLar eWhit	Cree XB-D XLan Warn Warn	Cree XM-L - nEZW nXLar eWarn Whit	Cree XM-L XLan Whit n	Cree XP-C n) Lan eWhite	Cree XP-G NALar eWhit	Cree XPG XLar Warr <sup>e</sup> Whit	Cree Coenz MLar nCool eWhit	Ever Shue Cool White	li <b>ghe</b> r erShue Warr eWhite	ight PedE n3W White	n <b>gid</b> i 5W eWhit	Lum En <b>G</b> in Luxe Cool Whit	ileds Devi SST White	i <b>Nics</b> h c2≄1s9 -570/arr c4Whit	Nichi NCSI 119-H Top Emitt Warn White	Osra Plus W5A Drag Cool White	Osra SSL 150 Megro Oslo Neut Whit	SSL 80 edegre nOslor ralltra eWhite	m Sams ≘8535 nWhite	8 <b>66</b> P4 eWhite	SSC Z1 Z - Pow Whi	SSC Z5 Z - Powe Cool te White	SSC Z5M Z - Powe Whit	SSC Z5P Z - Powe Pure Whit
0035 20.0mm Round - Flat Bottom Black																						✓				
0148 20.0mm Round - Flat Bottom Black																		$\checkmark$								
0148-TS 20.0mm Round - Flat Bottom Black																		√								
0149 20.0mm Round - Flat Bottom Clear																		√								
0149-TS 20.0mm Round - Flat Bottom Clear																		<b>√</b>								
0150 20.0mm Round - Flat Bottom White																		<b>√</b>								
0150-TS 20.0mm Round - Flat Bottom White																		<b>√</b>								
0273 50.0mm Triple - Locator Pins White																						<b>√</b>				
0276 50.0mm Triple - Locator Pins White																		<b>√</b>								
0283 50.0mm Triple - Locator Pins White																						<b>√</b>				
0286 50.0mm Triple - Locator																		<b>√</b>								
0293 50.0mm Triple - Locator Pins Black																						<b>√</b>				
0296 50.0mm Triple - Locator Pins Black																		<b>√</b>								
0303 50.0mm Triple - Locator Pins Black																						<b>√</b>				
0306 50.0mm Round - Flat Bottom Black																		<b>√</b>								
0363 20.0mm Round - Flat Bottom Black																						<b>√</b>				
0363-TS 20.0mm Round - Flat Bottom Black																						<b>√</b>				
0364 20.0mm Round - Flat Bottom White																						<b>√</b>				
0364-TS 20.0mm Round - Flat																						<b>√</b>				
0365 20.0mm Round - Flat Bottom Clear																						<b>√</b>				
0365-TS 20.0mm Round - Flat																						<b>√</b>				
0630 20.0mm Round - Locator Pins White																						-		<b>√</b>		
0631 20.0mm Round - Locator Pins White	/											<b>√</b>					✓							-		
0632 20.0mm Round - Locator Pins White						/				<b>√</b>	<b>√</b>	-		<b>√</b>			-		<b>√</b>	1						1
0633 20.0mm Round - Locator Pins White			<b>√</b>		<b>√</b>	-					-								-	-						-
0634 20.0mm Round - Locator Pins White			-		-		<b>√</b>																			
0637 20.0mm Round - Locator Pins White		<b>√</b>					-																			
0650 20.0mm Round - Locator Pins White		-																						✓		

10651 20.0mm Round - Locator Pins White	/				$\prod$	$\Box$						✓			✓						
10652 20.0mm Round - Locator Pins White					$\dagger$	✓				<b>√</b>	✓	-	<b>√</b>			V	/ /	-			1
10653 20.0mm Round - Locator Pins White			✓	v	/	-															
10654 20.0mm Round - Locator Pins White					7		✓														
10657 20.0mm Round - Locator Pins White		✓			7																
10670 20.0mm Round - Locator Pins White					$\uparrow$														7	/	
10671 20.0mm Round - Locator Pins White	<b>√</b>				$\uparrow$							✓			<b>√</b>						
10672 20.0mm Round - Locator Pins White					$\uparrow$	✓				<b>√</b>	<b>√</b>		<b>√</b>	<b>√</b>		V	<b>/ /</b>	-			<b>√</b>
10673 20.0mm Round - Locator Pins White			✓	v	/			✓													
10674 20.0mm Round - Locator Pins White					$\uparrow$		✓											<b>√</b>		<b>√</b>	,
10677 20.0mm Round - Locator Pins White		✓			$\top$																
10690 20.0mm Round - Locator Pins Black					$\top$														٧		
10691 20.0mm Round - Locator Pins Black	<b>√</b>				$\top$							✓			✓						
10692 20.0mm Round - Locator Pins Black					$\top$	✓				✓	✓		<b>√</b>			V	/ /	1			<b>√</b>
10693 20.0mm Round - Locator Pins Black			✓	v	1																
10694 20.0mm Round - Locator Pins Black							✓														
10697 20.0mm Round - Locator Pins Black		✓			$\top$																
10710 20.0mm Round - Locator Pins Black					$\uparrow$														7	/	
10711 20.0mm Round - Locator Pins Black	<b>√</b>				$\uparrow$							✓			<b>√</b>						
10712 20.0mm Round - Locator Pins Black					$\uparrow$	✓				<b>√</b>	<b>√</b>		<b>√</b>			V	/ /	,			<b>√</b>
10713 20.0mm Round - Locator Pins Black			<b>√</b>	v	/																
10714 20.0mm Round - Locator Pins Black					$\top$		✓														
10717 20.0mm Round - Locator Pins Black		✓			$\uparrow$																
10730 20.0mm Round - Locator Pins Black					$\uparrow$														١		
10731 20.0mm Round - Locator Pins Black	<b>√</b>				$\uparrow$							✓			<b>√</b>						
10732 20.0mm Round - Locator Pins Black					$\uparrow$	✓			<b>√</b>	<b>√</b>	✓		<b>√</b>	<b>√</b>		v	/ /	-			<b>√</b>
10733 20.0mm Round - Locator Pins Black			✓	v	/			✓	✓												
10734 20.0mm Round - Locator Pins Black					$\forall$		✓											<b>√</b>		<b>√</b>	,
10737 20.0mm Round - Locator Pins Black		✓			$\top$																
12073 20.0mm Round - Flat Bottom Black																					<b>√</b>
12073-TS 20.0mm Round - Flat Bottom Black					$\top$																<b>√</b>
12074 20.0mm Round - Flat Bottom White					$\top$																<b>√</b>
12074-TS 20.0mm Round - Flat Bottom White					$\dagger$																<b>√</b>
12075 20.0mm Round - Flat Bottom Clear			$\Box$		$\dagger$																<b>√</b>
Carola Ontice 103 Buckingham	<u> </u>				$\rightarrow$				1 4 5 7												

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12075-TS 20.0mm Round - Flat Bottom Clear													✓
47.313.5001.80 with 47.313320.80 20.0mm BJB® Black											✓		

Carclo Optics endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct and up to date information, Carclo suggest using the Opticselect tool on our website <a href="http://www.carclo-optics.com">http://www.carclo-optics.com</a>.

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### **General Instruction - Optics & Holders**

#### Handling instructions

- Do not handle or install lenses without wearing gloves, skin oils may damage the lens or the light transmission.
- Clean lenses with a mild soap and water and dry with a clean soft cloth.
- Do not use any commercial solvents on lenses.
- Mount holders with low Odour epoxies and allow time for them to out gas to stop lenses fogging.

### **Disclaimer - Optics & Holders**

Please note that flow lines, weld lines, surface scratches and small black or white inclusions within the lenses are acceptable if the optical performance of the lens is within the specification described below:

For optics that have FWHMs of 20 degrees or less, the general tolerance is +/-2 degrees OR the tolerances stated below - whichever is the greater.

#### For all optics except Rippled and Frosted;

• FWHM = Datasheet Value +/-10%.

### For all Rippled and Frosted Optics;

• FWHM = Datasheet Value +/-20%

# For all Optics;

• Efficiency = Datasheet Value +infinity / -10%

The yellowing / browning of polycarbonate lenses and holders can occur due to the natural ageing process and exposure to heat and UV and as such is not covered by Carclo's warranty.

#### **General Instruction - Taped Holders**

# Click here to view the 3M Technical Data Sheet

- When assembling the pre-taped holder onto the mating surface, the application must be made straight and square, so that the tape bonds consistently with mating surface. Assembly at an angle might cause an imperfect bond to the mating surface.
- Remember to ascertain the compatibility of the different substrates with the tape, as humidity and temperature fluctuations will weaken it's
  adhesive.
- To obtain optimum adhesion, the bonding surfaces must be clean, dry, free from grease and dirt and must be well unified.
- Some typical surface cleaning solvents are isopropyl alcohol or heptane.
- \* If cleaning of PCB or LED surfaces is required, please follow strictly the cleaning instructions recommended by your PCB and/or LED manufacturer this is important to note, as cleaning in some circumstances can damage LEDs or other electronic components on the PCB. Please also note that optical components should not be cleaned using any chemicals only a micro fibre cloth should be used to remove fingerprints or other traces from handling.
- \* Carefully read and follow the manufacturer's precautions and directions for use when working with solvents. These cleaning recommendations may not be compliant with the rules of certain Air Quality Management Districts in California; consult applicable rules before use.

Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure and moderate heat, from 100°F (38°C) to 130°F (54°C), will assist the adhesive in developing intimate contact with the bonding surface.

Ideal tape application temperature range is 70°F to 100°F (21°C to 38°C). Initial tape application to surfaces at temperatures below 50°F (10°C) is not recommended because the adhesive becomes too firm to adhere readily. However, once properly applied, low temperature holding is Carclo Optics 103 Buckingham Ave, Slough, Berkshire, SL1 4PF ENGLAND Tel: +44 (0)1753 575011 Fax: +44 (0)1753 811359

generally satisfactory.

During assembly the optic when placed on the PCB should be firmly held for 1-5 seconds to ensure the best possible bond. The tape will reach its final strength in 72 hours, dependent on the material and ambient conditions.

We request that the customer ensures (and fully tests) the suitability and sufficiency of the bond in his product. For example, mechanical stress, vibration and holes on the surface of the circuit board can weaken the strength of the tape.

#### **Disclaimer - Taped Holders**

Shelf Life - There is 1 year expected shelf life from the date of purchase direct from Carclo.

All Carclo lenses supplied with tape use the same high strength double-coated tape (unless otherwise mentioned in the datasheet). This tape is specifically selected for this application.

These tapes generally work well together with PCBs and LEDs on the market. The customer must take the necessary measures to ensure complete compatibility with their particular application, product, PCB, LED and/or other components.

Testing and verifying of the adhesives and their combinations is the responsibility of the customer.

The customer is solely responsible for evaluating the application of double sided tape to Carclo Holders and the adhesion of double sided tape holders to determine whether such double-sided tape is fit for a particular purpose and suitable for the users method of application. The selection of double-sided tape in the adhesion of double sided tape holders is not covered by Carclo's warranty.

Carclo cannot take responsibility for the results obtained by others whose methods we cannot control. It is always the customer's responsibility to determine the adhesive's suitability for their product and to take precautions for protection of property and persons against any hazards that may be involved in the handling and use of adhesives. Carclo disclaims all warranties, including warranties of merchantability or suitability for a particular purpose, arising from use of any adhesive product. Carclo disclaims any liability for consequential or incidental damages of any kind, including lost profits.

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