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Engineered Diffusers Film Product Line





RPC Photonics, Inc.
Engineered Diffuser™ Films
Standard Product Line



Orders based on this catalog should reference: Quote # **RPC-EDF**

Description

Engineered Diffuser™ Films standard product line

Typical Specifications

Material:	PET film
Illumination scatter pattern, EDF-C1:	Circular
Divergence angles:	56° (± 28°) ±5% (full-width at 90%)
Width of film	254mm (~10")

Material:	PET film
Illumination scatter pattern, EDF-L1:	Linear
Divergence angles:	56° (± 28°) ±5% (full-width at 90%)
Width of film	254mm (~10")

Material:	PET film
Illumination scatter pattern, EDF-S1:	Square
Divergence angles:	Nominally 20° (± 10°) (full-width at 90%)
Width of film	625mm

Price

Qty/linear ft.	1	5	10	20	50	100
Unit price/ft.	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 25.00	\$ 25.00
Lead time	1-2 wks ARO	1-2 wks ARO	1-2 wks ARO	1-2 wks ARO	1-2 wks ARO	1-2 wks ARO

Delivery

Dependent on availability – will be confirmed at time of order

When ordering please specify quote number, part number and quantity

Notes:

- RPC Photonics products are sold for use as products or samples and are not to be duplicated or replicated without written consent from RPC Photonics, Inc.
- Payment terms are NET 30 days from invoice date for customers with RPC-approved credit terms. Visa and MasterCard accepted using PayPal.
- Payment of freight, shipping, insurance costs, duties taxes and fees is the responsibility of the purchaser.
- Lead-time based on current workload and subject to change depending on actual workload at time of order.
- Pricing valid for small quantity orders. Please contact us for volume orders or custom specifications.
- Pricing may change without notice.

TERMS AND CONDITIONS

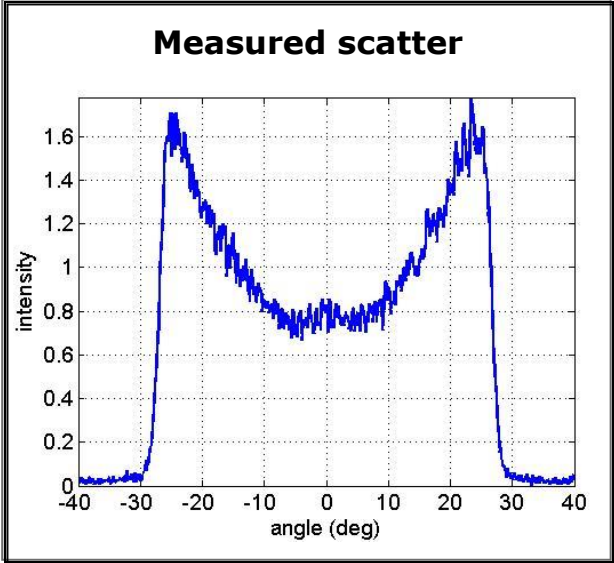
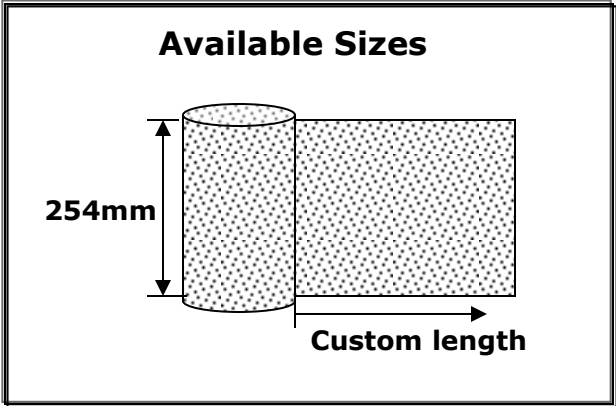
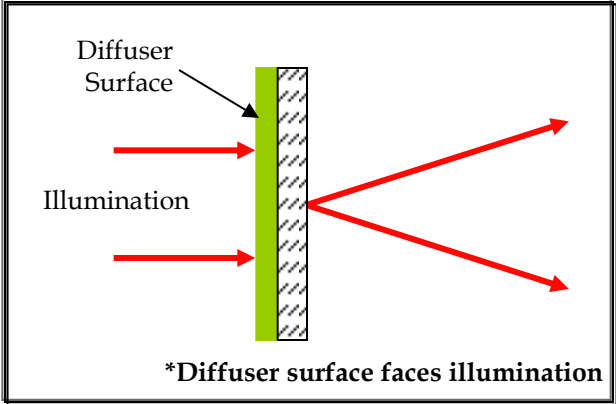
1. **GENERAL.** All orders are subject to approval and acceptance by Seller. Seller shall not be liable to Buyer or any other party by reason of its failure to accept any order. Seller accepts order and sells items only in accordance with the terms and conditions contained herein, unless specifically agreed to the contrary in writing by a duly authorized officer of Seller. Notwithstanding any contrary provisions that Buyer may propose, Seller's acceptance of any order is conditional upon Buyer's assent to the terms and conditions contained herein; acceptance by Buyer of items delivered by Seller shall constitute Buyer's assent.
2. **PRICES AND CHARGES.** The prices for all items (materials or services) to be furnished by Seller under any order are in United States dollars, and include provisions for packaging in accordance with standard commercial practices. Buyer shall be billed for items at prices in effect on the date of Seller's acceptance of Buyer's order for such items. Seller shall not be responsible for and Buyer shall pay all freight, transportation, insurance, shipping, storage, handling, demurrage or similar charges; provided, however, that Seller may at Seller's option, pay any or all such charges on behalf of Buyer and include such amounts in invoices to Buyer. Buyer-requested order changes require Seller's prior written consent. Seller reserves the right to change quoted process in the case of any functional specification changes, incremental changes in write times, or fluctuation in raw material costs to the Seller.
3. **TERMS OF PAYMENT.** Unless progress payments as determined by Seller are required or Seller decides that Buyer's financial condition makes C.O.D. payments or advance payment necessary, **payment shall be made in full thirty (30) days from invoice date** (which will not be prior to shipment date). A payment by check from a non-US bank may have additional fees charged when it is deposited in a US bank. If that should occur, these fees will be added to your account. Overdue payments shall carry 18% per annum interest charges, or the legal maximum rate, whichever is lower. Buyer shall pay Seller's collection or litigation expenses, including reasonable attorney fees.
4. **DELIVERY.** Delivery of all items shall be made following **Incoterms 2010 FCA (Free Carrier) origin**. Title and risk of loss or damage shall, in all cases, pass to Buyer upon Seller's shipment to Buyer. It shall be the responsibility of Buyer to file claims with the carrier for any loss or damage occasioned to goods while in transit. Seller shall use reasonable efforts to satisfy delivery dates requested by Buyer but shall have no obligation to satisfy such dates unless obligation is agreed to in writing signed by a duly authorized officer of Seller. Notice of nonconformity shall be given within thirty (30) days after receipt of the items involved.
5. **WARRANTY AND LIMITATION OF LIABILITY. Standard Items:** Seller warrants that items sold to Buyer will conform to Seller's specifications, and will be free from defects caused by faulty material or poor workmanship. **Except as expressly set forth in the immediately preceding sentence, seller has not made and does not hereby make any representations or warranty, express or implied, with respect to the merchantability, performance, suitability or fitness of the items for the buyer's use or the buyer's customer's use.** Seller's liability under this warranty is limited to the obligation to repair or replace, without charge, at Seller's sole option, or refund the purchase price for any items, which are returned to Seller with all transportation charges prepaid, and which are found by Seller within thirty (30) days after delivery to Buyer, to be defective under the terms of this warranty. This warranty does not apply to any damage resulting from accident, misuse, or abuse; furthermore, this warranty is void in the event any unauthorized person alters or repairs the item. The warranty stated herein is in lieu of all other obligations for liabilities on the part of the Seller, and Seller neither assumes nor authorizes any other person to assume for it any other liability. Buyer expressly waives any right, claim or cause of action that might otherwise arise out of the purchase and use of Seller's materials and service. In no event shall Seller be liable for special or consequential damages of any nature with respect to any material sold or delivered, or any service rendered (including, without limitation, any loss or damage resulting from defects in the materials or services). **Custom design and development:** RPC cannot and does not guarantee that its design and development efforts will be successful in whole or in part. To the extent that RPC has used commercially reasonable efforts to render the services required hereunder in a prudent and skillful manner, the inability of RPC to develop a custom article will not constitute a breach by RPC of any representation, warranty, covenant or other obligation.
6. **NOTICE OF CLAIM.** Immediately upon receipt, Buyer shall inspect items for any defects. All claims or defects discoverable upon inspection must be made in writing within fifteen (15) days after Buyer learns of the facts upon which the claim is based, but in no event later than thirty (30) days after Buyer's receipt of goods.
7. **FORCE MAJEURE.** Seller shall not be liable for any loss, cost, expense or damage if the fulfillment by Seller of any order or any other obligation to buyer is delayed or prevented due to any cause beyond Seller's reasonable control including, but not limited to, compliance with any government law or regulation, acts of God, acts of civil or military authority, judicial action, priorities, labor disputes, failure or delays in transportation, embargoes, wars, riots, production or engineering delays, or inability of Seller or its vendors to secure adequate materials, manufacturing facilities or labor. In the event of any delay due to such causes or other difficulties, whether or not similar in nature to any of these enumerated, the delivery dates shall be extended for a period equal to the extent of the delay so incurred.
8. **TAXES.** Prices quoted are exclusive of any sales, use, excise, *ad valorem* or other like taxes, and (on items sold outside the United States) customs, duties, licenses and permits, applicable to the sale, use or delivery of materials or services. In the event that any such tax or duty is payable, the amount thereof may be added by Seller to the price, and in all cases be paid by Buyer.
9. **PROPERTY RIGHTS.** Seller retains ownership of its models, patterns, dies, molds, jigs, fixtures, tools, software and hardware made for furnishing any items to Buyer and retains ownership of its proprietary data (including, without limitation, design engineering, software programs and technical information – whether or not patentable – and trade secret information, such as secrets contained in manufacturing methods or processes, treatment and chemical compositions, and plant layout and tooling). Any such proprietary data obtained by Buyer shall not be used by Buyer, nor shall such proprietary data be disclosed to Buyer to others unless, prior to Buyer's disclosure, such data was already known to the general public other than as a result of any violation by Buyer of any provision hereof.
10. **DEFAULT.** Seller shall have the right to stop work at any time and to withhold deliveries of any items ordered (including any portion of an order) if any payment due to Seller from Buyer shall not be paid in full when due. If Seller shall invoke the foregoing right, the full purchase price for all items completed, whether or not shipped, shall become due and payable, and buyer shall pay to Seller a reasonable charge for any goods and work in process.
11. **TERMINATION.** After acceptance or acknowledgement by Seller of any order, such order may not be terminated nor may any part of such order be terminated (unless due to Seller's default) by Buyer without the written consent of Seller signed by a duly-authorized officer of Seller. If Buyer terminates any order or any part of any order, as permitted hereunder, Buyer shall pay to Seller the purchase prices for all items completed, whether or not shipped, and Buyer shall pay to Seller a reasonable charge for any goods and work in process.
12. **APPLICABLE LAW.** New York Law applicable to agreements executed and to be performed in the State of New York shall govern all matters relating to sales by Seller to Buyer, including the validity and interpretation of these terms and conditions of sale.
13. **ASSIGNMENT.** No assignment of any order by Buyer shall be valid without Seller's prior written consent.
14. **AMENDMENTS.** No provision in any order or any other writing (except a writing signed by a duly authorized officer of Seller) shall in any way increase Seller's obligations or decrease Seller's rights in connection with any sale by Seller to Buyer.
15. **CONFLICTS.** These terms and conditions shall supersede any conflicting terms and conditions contained in any purchase order or similar document from Buyer to Seller unless Seller accepts such other terms in writing.
16. **INDEMNIFICATION.** The Buyer hereby agrees to indemnify and save harmless the Seller, the Seller's representatives, agents and employees, from and against all liability claims and demands on account of injury to persons including death resulting therefrom and damage to property arising out of the performance of this contract by the Buyer, employees, and agents of the Buyer and Buyer's property, except from and against such claims and demands which may arise out of the sole negligence of the Seller or its agents or any subsidiaries. The Buyer shall, at his or its own expense, defend any and all actions at law brought against the Seller, or his agents, based thereon and shall pay all attorney fees and all other expense and promptly discharge any judgment arising therefrom. These conditions shall also apply to any of the Buyer's subcontracted operations.



Engineered Diffusers™

EDF-C1

Scatter Properties	
Shape	Circular
Angle full-width 50%	56°
Intensity ratio edge-to-center	2:1
Diffuser feature size	≤ 80µm
Operating wavelength	Achromatic
Physical Properties	
Master	D8020
Material	PET Film
Thickness	150µm
Index of refraction	1.58
Temperature range	-20°C to 30°C
Relative humidity	20-80%



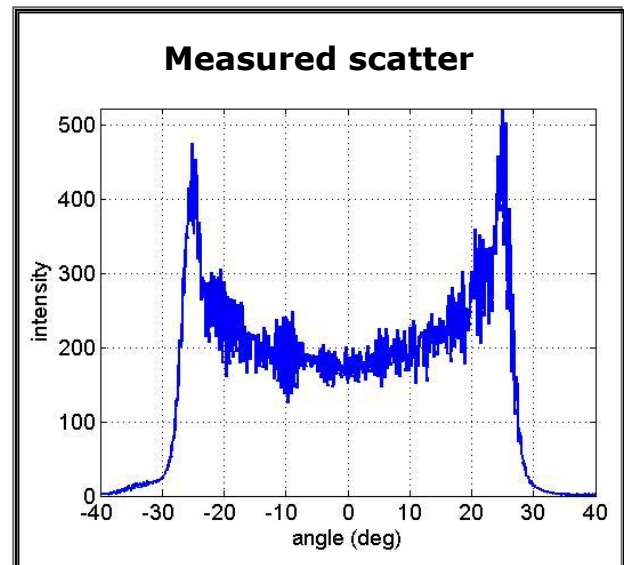
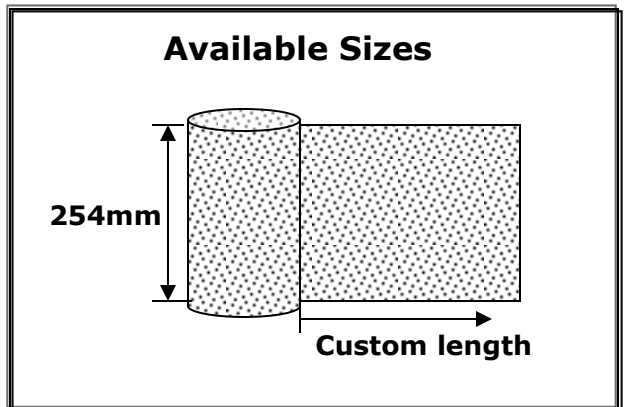
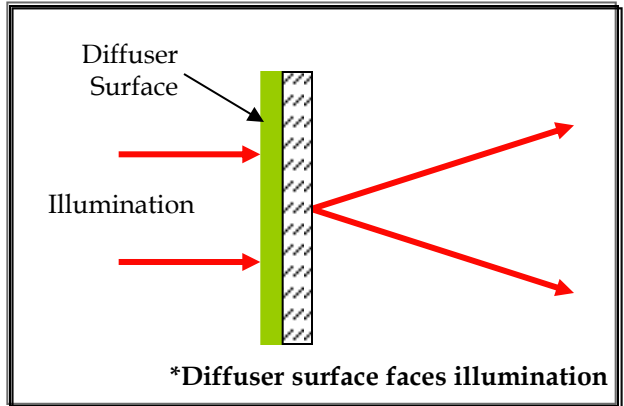
- Notes**
1. Scatter angles measured with laser light at 633nm and collimated illumination. Actual angles may differ from nominal for other wavelengths or degree of collimation.
 2. For best uniformity illuminating beam should be several times larger than diffuser feature size.
 3. Handling and cleaning:
 - a. Avoid touching diffuser surface
 - b. To clean just blow diffuser surface with dry compressed air



Engineered Diffusers™

EDF-L1

Scatter Properties	
Shape	Line
Angle full-width 50%	56°
Intensity ratio edge-to-center	2:1
Diffuser feature size	≤ 80μm
Operating wavelength	Achromatic
Physical Properties	
Master	D8020
Material	PET Film
Thickness	150μm
Index of refraction	1.58
Temperature range	-20°C to 30°C
Relative humidity	20-80%



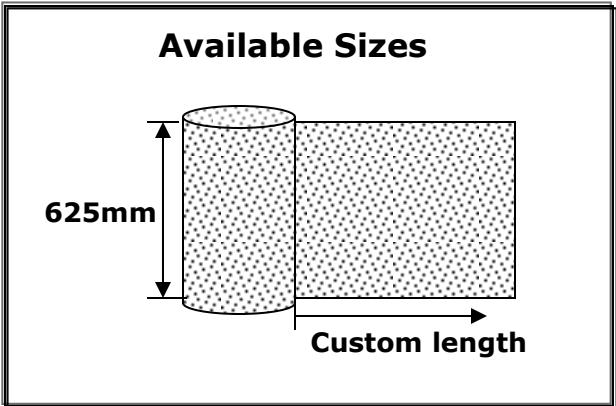
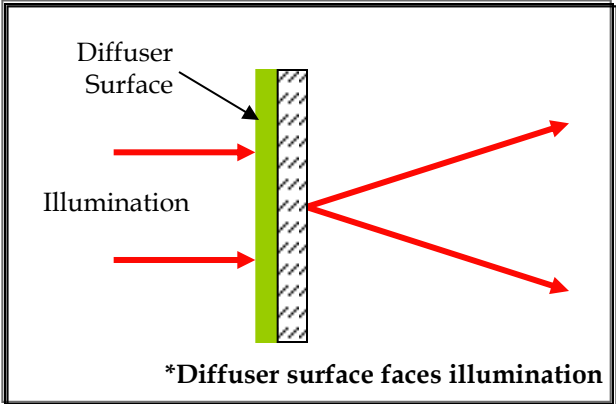
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Engineered Diffusers™

EDF-S1

Scatter Properties	
Shape	Square
Angle full-width 90%	20°
Intensity ratio edge-to-center	1.75:1
Diffuser feature size	≤ 80µm
Operating wavelength	Achromatic
Physical Properties	
Substrate material	PET Film
Substrate thickness	150µm
Index of refraction	1.58
Temperature range	-20°C to 30°C
Relative humidity	20-80%



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