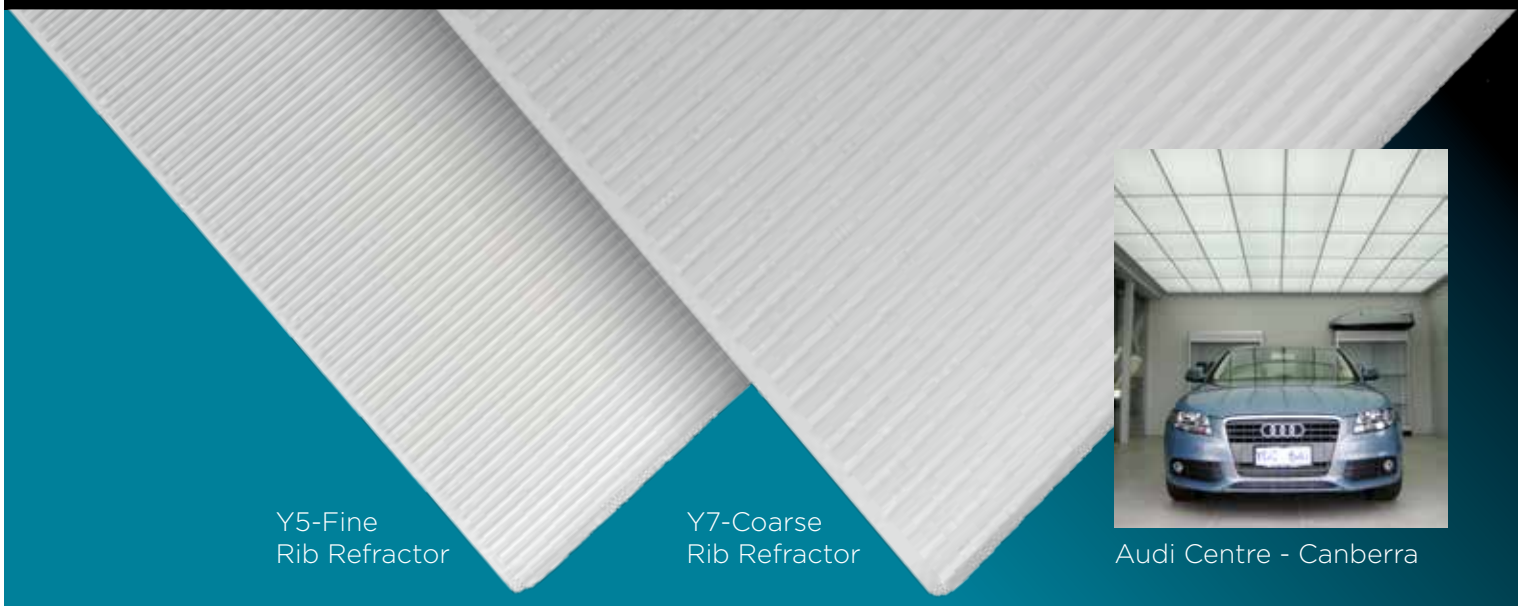
Y5 & Y7 Refractor

100% recyclable product

MADE IN



Audi Centre - Canberra

Refractor is a new acrylic material for lighting diffusers. It is pearl in appearance and is suitable for use in modern and high finish architectural commercial buildings.

It features

- High light transmittance - 88%.
- Excellent photometric performance.
- Y5-Fine and Y7-Coarse rib (lineal reed) embossed pattern offers a sleek and modern appearance.
- Offers excellent tube obscuration (reduces tube definition).
- An ideal diffuser for high performance T5 luminaires, but also excellent for T8 tubes.
- Offers even luminance over the entire diffuser.

Properties

The special optical properties are obtained by incorporating spherical, high molecular weight polymer beads with a different refractive index into the acrylic matrix.
The difference in refractive indices changes the direction of light travel within the manufactured part. The net result is an even distribution of light exiting the part.

Dimensions

Y5 Fine Rib Refractor
Standard Sheet Sizes (nominal)
2mm and 2.5mm thick
1240mm x660mm
1540mm x660mm

Y7 Coarse Rib Refractor
Standard Sheet Sizes (nominal)
3mm thick
1240mm x660mm
1540mm x660mm

Uses

Offices, Boardrooms, Retail.

Used under normal interior conditions, Y5 & Y7 Refractor will perform satisfactorily for 20 years.

NDY Brisbane office using Y5 Refractor

Y5 & Y7 Refractor

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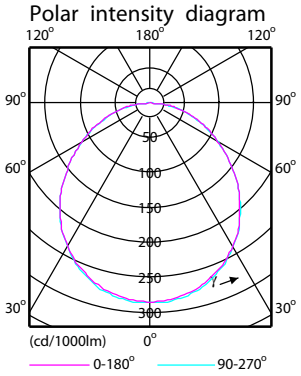
Photometric Data

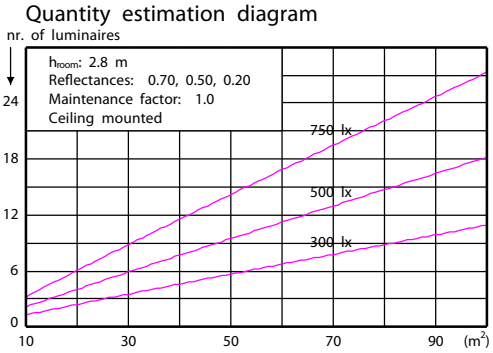
For typical recessed pan luminaire

Y7-Coarse Rib Refractor T5/228/300

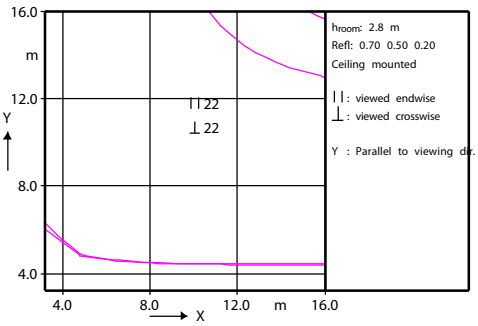
Polar intensity diagram



Quantity estimation diagram



UGR diagram



Light output ratio	0.79
Service upward	0.00
Service downward	0.79
CIE flux code	48 78 94 100 79
SHR NOM (square)	1.25
SHR MAX (square)	1.43
SHR MAX (continuous)	1.74
UGRcen (4Hx8H, 0.25H)	22

Utilisation factor table

Reflectances			Room Index								
C	W	F	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	45	53	58	63	68	72	75	79	81
0.70	0.30	0.20	38	47	52	57	63	68	71	75	78
0.70	0.10	0.20	34	42	48	52	59	64	67	72	75
0.50	0.50	0.20	43	51	56	60	66	69	72	75	78
0.50	0.30	0.20	38	46	51	56	61	66	69	73	75
0.50	0.10	0.20	34	42	47	52	58	62	66	70	73
0.30	0.50	0.20	42	50	55	58	63	67	69	72	74
0.30	0.30	0.20	37	45	50	54	60	64	66	70	73
0.30	0.10	0.20	34	41	47	51	57	61	64	68	71
0.00	0.00	0.00	32	39	44	48	54	58	61	65	67

Ceiling mounted

Luminance Table

Plane / Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	4097	4097	4108	4108	4097	4085	4097
50.0	3906	3912	3919	3919	3919	3912	3906
55.0	3815	3815	3830	3822	3830	3815	3815
60.0	3605	3620	3620	3645	3654	3628	3620
65.0	3580	3560	3560	3580	3560	3550	3523
70.0	3435	3446	3435	3446	3411	3364	3318
75.0	3605	3576	3576	3529	3482	3403	3327
80.0	3431	3475	3475	3453	3383	3243	3152
85.0	4061	3965	3965	3879	3783	3692	3418
90.0	-	-	-	-	-	-	-

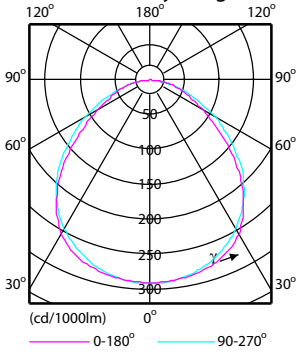
(cd/m²)

Product data

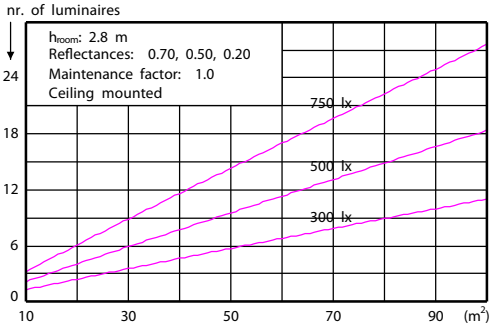
For typical recessed pan luminaire

Y5-Fine Rib Refractor T5/228/300

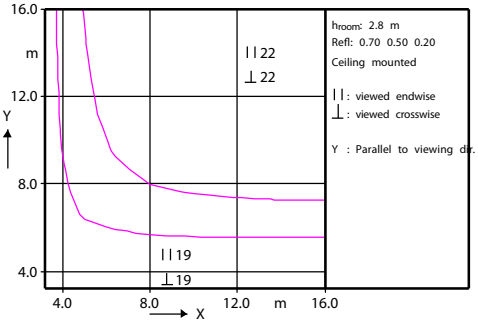
Polar intensity diagram



Quantity estimation diagram



UGR diagram



Light output ratio	0.75
Service upward	0.00
Service downward	0.75
CIE flux code	52 83 96 100 75
SHR NOM (square)	1.25
SHR MAX (square)	1.43
SHR MAX (continuous)	1.71
UGRcen (4Hx8H, 0.25H)	20

Utilisation factor table

Reflectances			Room Index								
C	W	F	0.75	1.00	1.25	1.50	2.00	2.50	3.00	4.00	5.00
0.70	0.50	0.20	45	53	58	62	67	70	73	76	78
0.70	0.30	0.20	39	47	53	57	63	67	69	73	76
0.70	0.10	0.20	35	43	49	53	59	63	66	71	73
0.50	0.50	0.20	44	51	56	60	65	68	70	73	75
0.50	0.30	0.20	39	46	52	55	61	65	67	71	73
0.50	0.10	0.20	35	43	48	52	58	62	65	69	71
0.30	0.50	0.20	43	50	54	58	62	65	68	70	72
0.30	0.30	0.20	38	45	51	54	59	63	65	68	71
0.30	0.10	0.20	35	42	47	51	57	60	63	67	69
0.00	0.00	0.00	33	40	45	49	54	58	60	63	65

Ceiling mounted

Luminance Table

Plane / Cone	0.0	15.0	30.0	45.0	60.0	75.0	90.0
45.0	4006	4028	4062	4119	4199	4221	4244
50.0	3605	3667	3730	3800	3881	3968	3993
55.0	3170	3283	3380	3479	3605	3689	3732
60.0	2800	2857	3026	3210	3364	3444	3493
65.0	2513	2550	2628	2808	3028	3112	3140
70.0	2400	2425	2447	2505	2706	2821	2799
75.0	2364	2334	2334	2364	2393	2457	2393
80.0	2226	2202	2178	2200	2222	2041	1899
85.0	2036	2036	1940	1940	1843	1618	1296
90.0	-	-	-	-	-	-	-

(cd/m²)

Y5 Refractor

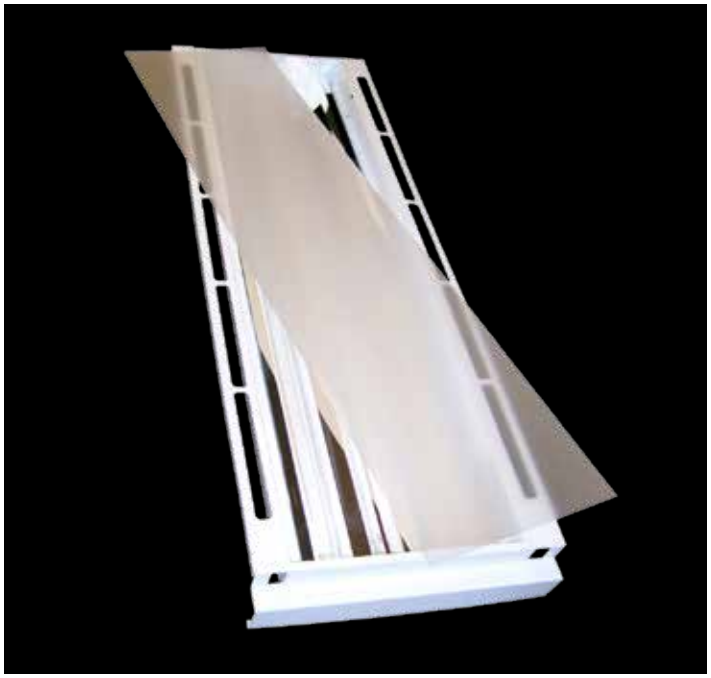
100% recyclable product

MADE IN

Photometric test with high performance luminaire

1 x 28W T5 Luminaire.
Product ID: ZZ2909128NNWA4.

Folded/welded metal body in gloss white finish. Lamp: Osram, FH 28W/840 centred 60mm above luminous opening of 283mm x 1165mm and 15mm below multi-facet specular reflector. Translucent and longitudinally reeded diffuser fitted to luminous opening with smooth side uppermost. Ballast: Vossloh Schwabe, ELXc 135.856 220-240V 0/50-60Hz operated at 240V/50Hz.

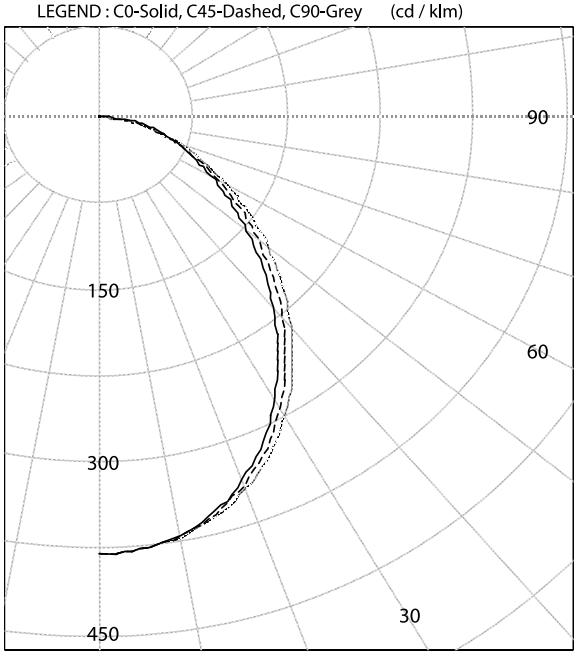


Performance summary

Light output ratio	87.3%
Luminaire power	30.8W
SHR nominal	1.25
SHR maximum	1.48

Photometric data

LEGEND : C0-Solid, C45-Dashed, C90-Grey (cd / klm)



AVERAGE LUMINANCE (cd / sq.m / klm)

Gamma	C0	C45	C90
45.0	794	845	891
55.0	674	725	776
65.0	594	620	661
75.0	592	557	543
85.0	583	480	384

INTENSITY SUMMARY (cd / klm)

	C-Plane					Output
Gamma	C0	C22.5	C45	C67.5	C90	Lumens
0.0	380	380	380	380	380	
5.0	378	378	378	378	378	36
10.0	370	370	371	372	372	
15.0	356	357	358	360	361	101
20.0	336	338	341	344	345	
25.0	312	314	319	323	324	146
30.0	283	285	291	297	299	
35.0	250	254	261	268	271	163
40.0	217	221	229	237	239	
45.0	185	188	197	205	208	152
50.0	155	158	166	174	177	
55.0	127	130	137	144	147	123
60.0	103	105	110	117	119	
65.0	83	83	86	91	92	87
70.0	66	66	65	68	68	
75.0	50	49	48	47	46	51
80.0	35	34	31	29	27	
85.0	17	16	14	13	11	15
90.0	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

Zone	Lumens	% Lamp	% Luminaire
0-30	283	28.3	32.4
0-40	446	44.6	51.0
0-60	721	72.1	82.5
0-90	873	87.3	100.0
40-90	428	42.8	49.0
60-90	153	15.3	17.5
90-180	0	0.0	0.0
0-180	873	87.3	100.0

Light Output Ratio = 87.3 %

SHR-NOM = 1.25
SHR-MAX = 1.48

Calculated using the TM5 fine grid method.