EKCO — the new Big name for Electric lamps

Contents

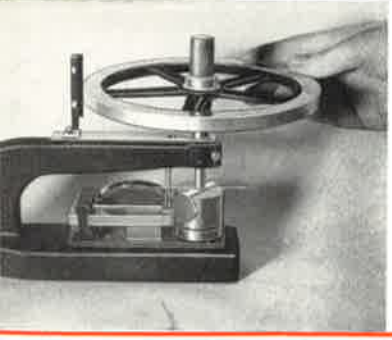
EKCO LAMPS

– the new big name in Lamps

EKCO is a trade-mark synonymous with first-class radio; with a reputation to be jealously guarded in marketing Ekco Lamps. That in itself is a guarantee of high quality. But the very organisation which made this trade-mark famous has also won international repute for high-precision work in the science of modern electronics. Making instruments used for testing, measuring and analysing in laboratories, factories and hospitals throughout the world. No better background could be desired for electric lamp manufacture, for the secret of good lamps is unremitting consistency in materials and processes at every stage of production . . . precise, scientific control by precise, scientific instruments. All lamps look the same; all Ekco Lamps *are* the same and are *always* the same—consistently efficient and consistently dependable. The National Physical Laboratory Reports to which reference is made in this catalogue, provide still further proof of the efficiency, consistency and reliability of Ekco Lamps.

SERVE YOU LIGHT

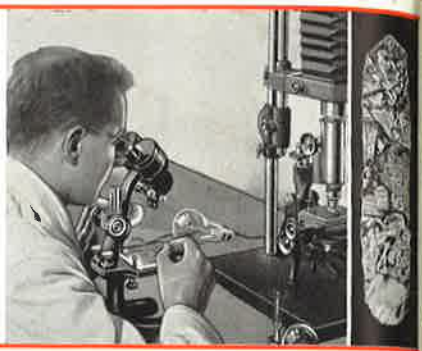
EKCO Lamps "MADE TO

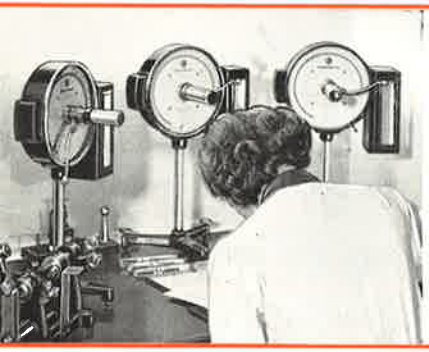


Making one lamp is comparatively simple; duplicating it exactly again and again is a task of infinite precision. Consistency in manufacture is the secret: the one real difference between good, reliable lamps . . . . . and the others

These scenes at Ekco Works show how Ekco Lamps are manufactured scrupulously to B.S.I. specifications. Here, mandrel-wire for filament-cores is being checked for uniformity by light-wave measurements, this super-sensitive micrometer giving accuracy to within 1/100,000th of an inch.

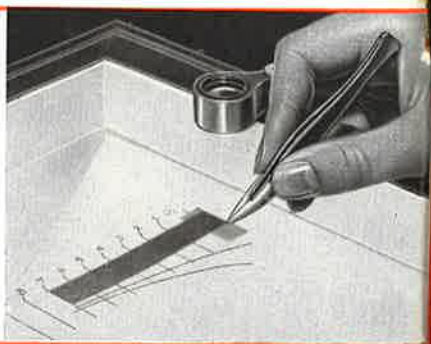
In making good lamps no detail is too small to need attention. The crystal-structure of the tungsten filament wire (inset, magnified 350-times) is kept under constant microscopic study. When the filament is hot, crystals of inappropriate structure will sometimes slip, like rock-strata on a mountain-side; the filament becomes mis-shapen, burns unevenly . . . and suddenly breaks! On little things like these the life of a lamp depends . . that is why it pays to choose lamps with care and discretion. Lamps built to exact specification.





Making good lamps involves infinite detail-work. Some filament wire runs 190 miles to the pound—twenty-thousand filaments weigh only an ounce! But the wattage and light output of a lamp depend upon the accurate measurement of the filament . . . so fine that it can be measured only by weighing. Exactitude in measurement to within 1/1,000,000th of an ounce is given by these torsion balance scales, a few of the many high-precision laboratory instruments employed at all stages in the normal routine manufacture of Ekco Lamps.

Filaments are coiled on a mandrel, or thin core; then annealed in an electric furnace to remove strains set up in the fine tungsten during coiling. The mandrel is dissolved and the tungsten coil is minutely inspected for regularity of coils and accuracy of length. A 5 per cent. variation in length is sufficient to halve the life of a lamp. This is typical of the exactitude involved in making to the specifications of the British Standards Institute; how life, light output and current consumption are kept consistent and dependable.

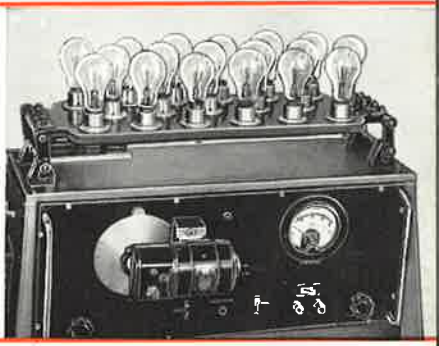


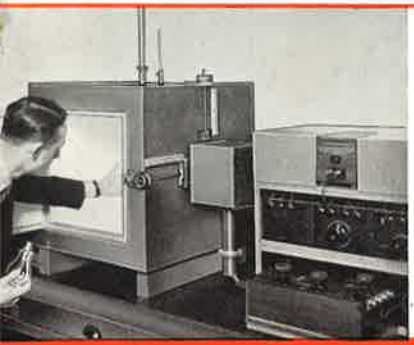
BRITISH STANDARD SPECIFICATIONS

A further check on the filament—the fundamental component of a lamp—is given by this optical projector, which magnifies the gossamer-like spirals of wire (under the lens in foreground) so that they appear on the screen like heavy curtain-springs. The closeness and regularity of the coils, 600 or more to the inch, can be judged from the milled edge of a coin, included for comparison. Tiny faults, hidden to unassisted vision, develop into 'hot-spots'—vital weaknesses that, unless detected, would cause early deterioration and curtailed life.

More than half the lamps which fail prematurely do so because 'hot-spots' have developed in the filament. Earlier photographs have shown how these are guarded against in manufacture ; here is seen the test applied to completed filaments. The filament is mounted and inserted into a gas-filled chamber ; a momentary current is applied and the red-glowing filament is inspected through the small window. O.K. filaments glow evenly (inset, top), but irregular filaments (bottom) show bright 'hot-spots' which would spell premature failure.

A percentage of every batch of Ekco Lamps is life-tested to destruction ; the length of life—in a lamp made to a standard specification—is a yard-stick of unquestionable accuracy. The tests take various forms, this illustration showing the Vibration Test. The lamps are mounted in racks and subjected to vibrations automatically varied by a Beat Frequency Oscillator from 10-10,000 per second. Ekco Lamps withstand all types of vibration—from the rumble of passing lorries to the throbbing beat of turbines in an Atlantic liner.





The lamp is complete, ready for the carton, but tests still continue. This photo-electric photometer, sprayed inside with titanium-oxide white paint to prevent colour distortion of the light is equipped with photo-electric cells. These indicate, via meters, the efficiency of the lamp to within 1 part in 1,000, giving final proof that the lamp is made exactly to the British Standard Specification . . . the specification selected as ideal by Government Departments and representatives of leading Scientific and Industrial organisations throughout the country.

EKCO Lamps

COILED COIL

More light for the same current

Even greater brilliance with no loss of life is gained by applying the ' coiled-coil ' principle to Ekco Lamps. The ' coil-within-a-coil ' filament increases light output by as much as 20 per cent. An Ekco 40 w. Coiled-Coil Lamp gives the equivalent light of a 48 w. single-coil, and other ratings show similar substantial increases. Conversely, if extra light is not needed, considerable current economies are effected by judicious use of Ekco Coiled-Coil Lamps.

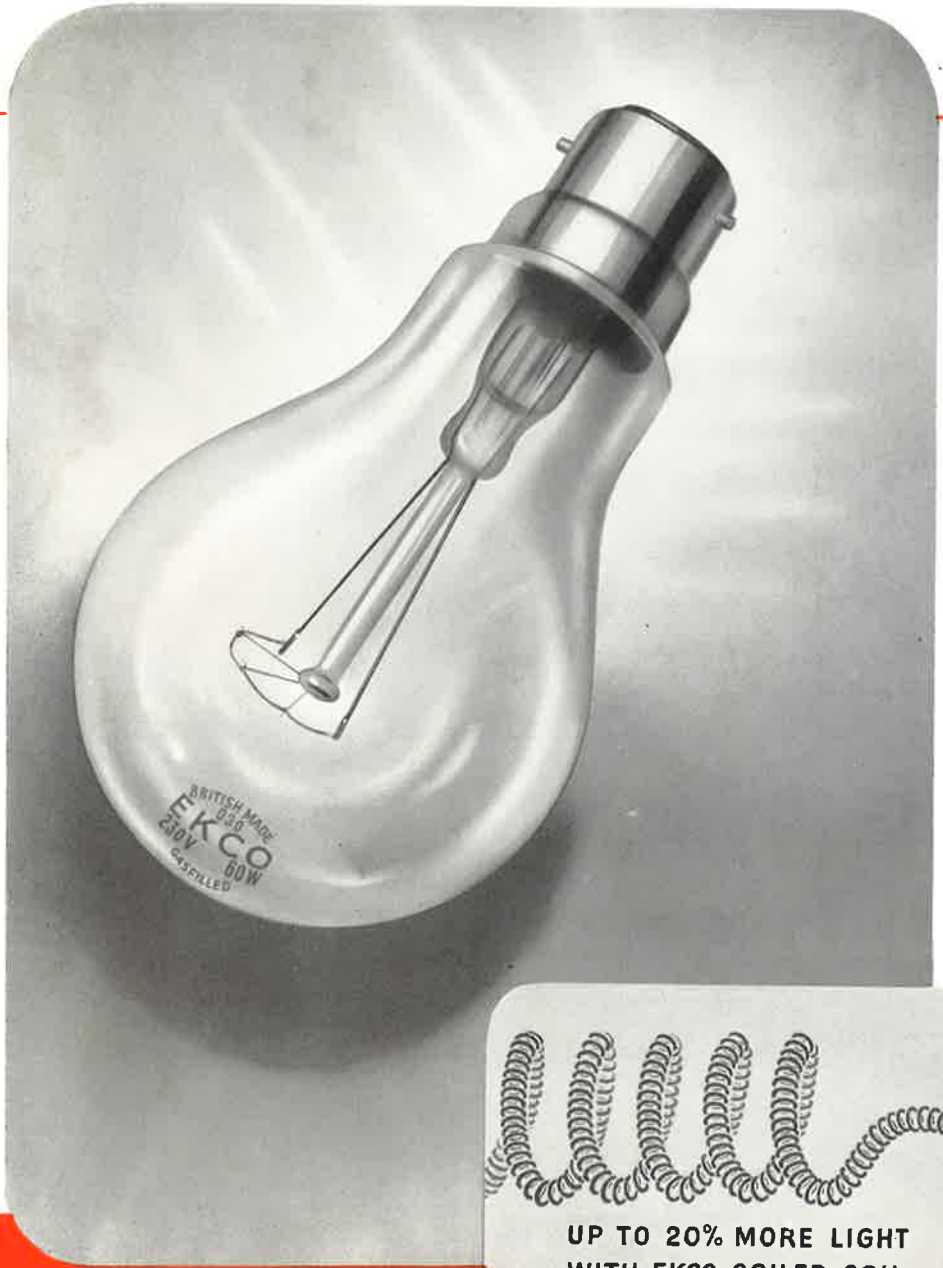
CLEAR AND PEARL Voltages : 200, 210, 220, 230, 240, 250, 260

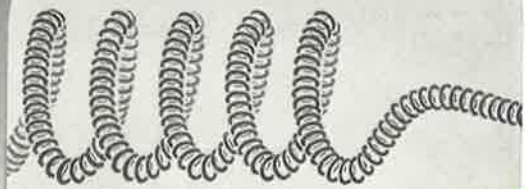
WATTS	PRICES		Approximate dimensions (± B.S.S. tolerances)							
	Clear	Pearl	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
	s. d.	s. d.	m/m	ins.	m/m	ins.	m/m	ins.	m/m	ins.
40	1 8	1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$	33	$1\frac{5}{16}$
60	1 8	1 6	117.5	$4\frac{5}{8}$	65	$2\frac{9}{16}$	85	$3\frac{5}{16}$	35	$1\frac{3}{8}$
75	2 0	1 10	125	$4\frac{7}{8}$	70	$2\frac{3}{4}$	90	$3\frac{1}{2}$	39	$1\frac{1}{2}$
100	2 0	2 0	137.5	$5\frac{3}{8}$	75	$2\frac{15}{16}$	100	$3\frac{15}{16}$	39	$1\frac{1}{2}$

STANDARD CAPS: B.C. and E.S.

EKCO LAMPS

Coiled Coil





UP TO 20% MORE LIGHT
WITH EKCO COILED COIL

SERVE YOU LIGHT

EKCO Lamps

CLEAR, PEARL AND COLOUR-SPRAYED

Voltages : 100, 105, 110, 115, 120, 125, 130 and 200, 210, 220, 230, 240, 250, 260

WATTS	PRICES			Approximate dimensions (±B.S.S. tolerances)							
	Clear	Pearl	Colour-sprayed	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
	s. d.	s. d.	s. d.	m/m	in.	m/m	in.	m/m	in.	m/m	in.
15	1 6	1 6	1 9	92.5	3 5/8	55	2 3/16	65	2 9/16	30	1 3/16
25	1 6	1 6	1 9	100	3 15/16	60	2 3/8	70	2 3/4	33	1 5/16
40	1 8	1 6	1 9	110	4 5/16	60	2 3/8	80	3 1/8	33	1 5/16
60	1 8	1 6	1 9	117.5	4 5/8	65	2 9/16	85	3 5/16	35	1 3/8
75	2 0	1 10	2 1	125	4 7/8	70	2 3/4	90	3 1/2	39	1 1/2
100	2 0	2 0	2 3	137.5	5 3/8	75	2 15/16	100	3 15/16	39	1 1/2
150	3 3	3 3	3 8	160	6 1/4	80	3 1/8	120	4 3/4	39	1 1/2
200	5 3	5 9	6 0	178	7	90	3 1/2	133	5 1/4	45	1 3/4
300	8 3	9 0	†9 6	233	9 1/8	110	4 5/16	178	7	50	1 15/16
500	10 6	11 6	†12 0	267	10 1/2	130	5 1/8	202	7 15/16	52	2
1000‡	15 0	—	—	300	11 3/4	150	5 7/8	225	8 7/8	55	2 3/16

‡ 200/260 v. only. Colour-sprays as listed on Page Ten. † White only.

STANDARD CAPS: 15-200 watts: B.C. and E.S. 300-1,000 watts: G.E.S.

EKCO LAMPS

General Service

SERVE YOU LIGHT

EKCO Lamps

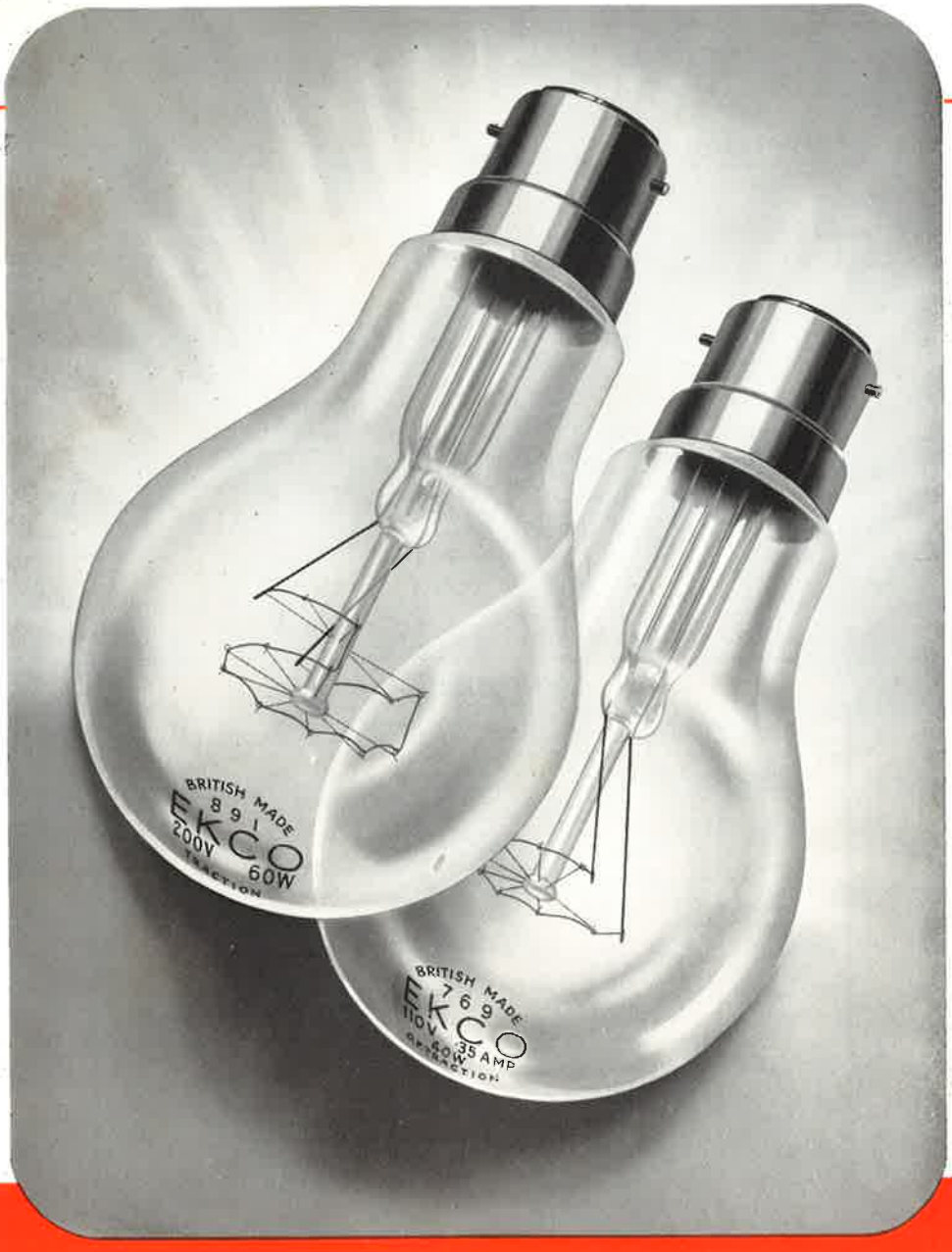
TRACTION SERVICE AND TRAFFIC SIGNAL

These lamps for train, tram, trolley-bus, traffic signal and industrial lighting are designed, made and tested with special attention to those sources of failure most frequently encountered. They will withstand the heaviest working conditions. The series-burning types conform exactly with the B.S.I. specification 867, of 1939.

TYPE AND VOLTAGES	WATTS (Nominal)		PRICES Clear and Pearl	Approximate dimensions (±B.S.S. tolerances) Length		Bulb diameter		Cap contact to filament centre	
		Amp.	s. d.	m/m	in.	m/m	in.	m/m	in.
Series-Burning — 100, 110, 120, 130 v. — B.C. or E.S. caps.	30	.27	1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$
	40	.35	1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$
	40*	.35	1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$
	60*	.52	1 6	117.5	$4\frac{5}{8}$	65	$2\frac{9}{16}$	85	$3\frac{5}{16}$
Single-Wreath — 200, 210, 220, 230, 240, 250, 260 v. — B.C. or E.S. caps.	40		1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$
	60		1 6	117.5	$4\frac{5}{8}$	65	$2\frac{9}{16}$	85	$3\frac{5}{16}$
Twin-Wreath — 200, 210, 220, 230, 240, 250, 260 v. — B.C. or E.S. caps.	40		1 6	110	$4\frac{5}{16}$	60	$2\frac{3}{8}$	80	$3\frac{1}{8}$
	60		1 6	117.5	$4\frac{5}{8}$	65	$2\frac{9}{16}$	85	$3\frac{5}{16}$
Traffic Signal 100, 105, 110, 115, 120, 125, 130 & 200, 210, 220, 230, 240, 250, 260 v.			Clear only						
	60 B.C.		1 9	117.5	$4\frac{5}{8}$	65	$2\frac{9}{16}$	85	$3\frac{5}{16}$
	60 E.S.		1 9	108	$4\frac{1}{4}$	65	$2\frac{9}{16}$	62	$2\frac{7}{16}$

* Gas-filled. Remainder, vacuum spiral filament.

Traction and Traffic Signal



SERVE YOU LIGHT

Sign and Pygmy

SIGN LIGHTING

Clear and colour-sprayed Sign and Pygmy Sign lamps for indoor and outdoor service. Suitable for lamp signs and indicators of all types.

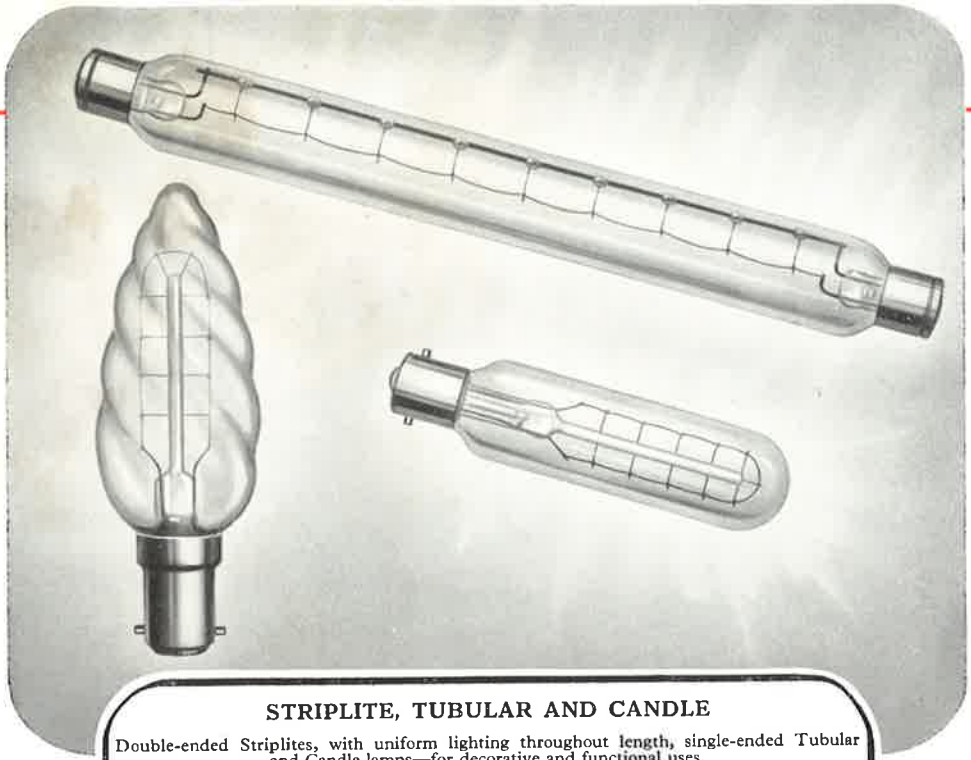
Voltages : 100, 105, 110, 115, 120, 125, 130, and 200, 210, 220, 230, 240, 250, 260

TYPE	WATTS	PRICES		Approximate dimensions				Colour sprays
		Clear	Colour-sprayed	Diameter		Length		
		s. d.	s. d.	m/m	in.	m/m	in.	White
Standard Sign	15	1 6	1 9	43	1 11/16	89	3½	Ivory Yellow Amber
	20	1 6	1 9	43	1 11/16	89	3½	Orange Flame Pink Red Green Blue
B.C. and E.S. caps, standard ; S.B.C., S.E.S. and S.C.C. caps, 1d. extra								
Pygmy Sign	15	1 8	1 9	28	1⅛	56	2 3/16	Other colours to special orders.

B.C., E.S., S.B.C. and S.E.S. caps, standard.

EKCO LAMPS

Strip, Tubular and Candle



STRIPLITE, TUBULAR AND CANDLE

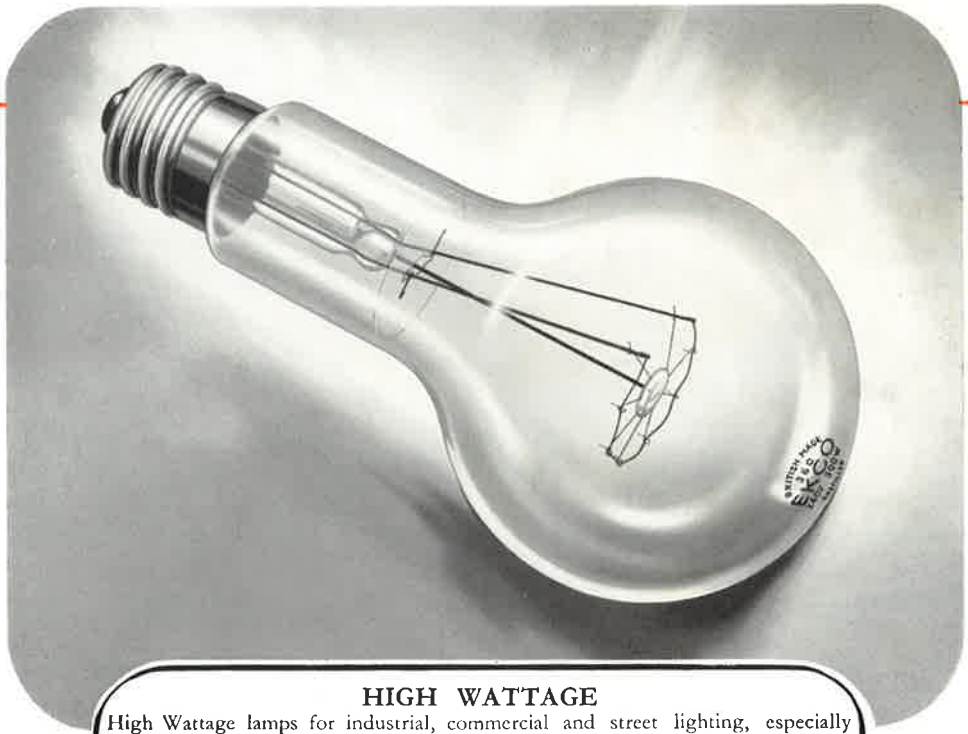
Double-ended Striplites, with uniform lighting throughout length, single-ended Tubular and Candle lamps—for decorative and functional uses.

Voltages : 100, 105, 110, 115, 120, 125, 130 and 200, 210, 220, 230, 240, 250, 260

TYPE	WATTS & Standard Cap	PRICES		Approx. dimensions				Colour-sprays
		Clear	Colour-sprayed	Length		Diameter		
		s. d.	s. d.	m/m	in.	m/m	in.	
Double-ended Striplite	30 S.C.C.	4 0	4 4	221	8 11/16	25	1	White Ivory Yellow Amber Orange Flame Red Green Blue
	30 S.C.C.	4 0	4 4	284	11 3/16	25	1	
	60 S.C.C.	4 9	5 1	284	11 3/16	25	1	
	100 C.C.	6 9	7 1	309	12 1/16	46	1 13/16	
Single-ended Tubular	25 S.C.C. B.C. S.B.C. S.E.S.	3 0	3 3	92	3 5/8	25	1	
	25 F.S. C.C.	3 3	3 6	92	3 5/8	25	1	
Candle	25 Plain	2 6	2 9	105	4 1/8	35	1 3/8	Other colours to special order
	25 Twisted	3 0	3 3	105	4 1/8	35	1 3/8	
	40 Plain	3 0	3 3	130	5 1/8	45	1 3/4	
	40 Twisted	3 6	3 9	144	5 3/4	55	2 3/16	
	S.C.C., B.C., S.B.C., S.E.S. 3d. extra for E.S. & C.C.	External frosting 5d. each.						

SERVE YOU LIGHT

High Wattage



HIGH WATTAGE

High Wattage lamps for industrial, commercial and street lighting, especially suitable for planned replacement schemes.

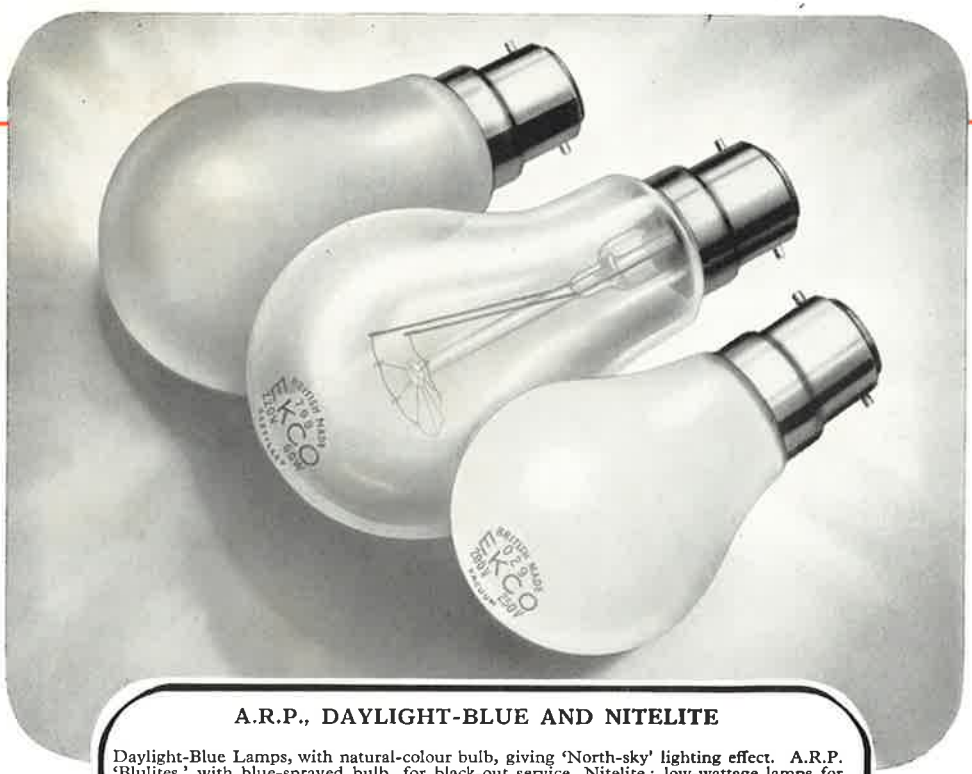
Voltages : 100, 105, 110, 115, 120, 125, 130 and 200, 210, 220, 230, 240, 250, 260

WATTS & Standard Cap	PRICES		Approximate dimensions (±B.S.S. tolerances)							
	Clear	Pearl	Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
	s. d.	s. d.	m/m	in.	m/m	in.	m/m	in.	m/m	in.
200 E.S. or B.C.	5 3	5 9	178	7	90	$3\frac{1}{2}$	133	$5\frac{1}{4}$	45	$1\frac{3}{4}$
300 G.E.S.	8 3	9 0	233	$9\frac{1}{8}$	110	$4\frac{5}{16}$	178	7	50	$1\frac{15}{16}$
500 G.E.S.	10 6	11 6	267	$10\frac{1}{2}$	130	$5\frac{1}{8}$	202	$7\frac{15}{16}$	52	2
1000*G.E.S.	15 0	—	300	$11\frac{3}{4}$	150	$5\frac{7}{8}$	225	$8\frac{7}{8}$	55	$2\frac{3}{16}$

*200/260 v. only. All gas-filled.

EKCO LAMPS

A.R.P., Daylight and Nitelite



A.R.P., DAYLIGHT-BLUE AND NITELITE

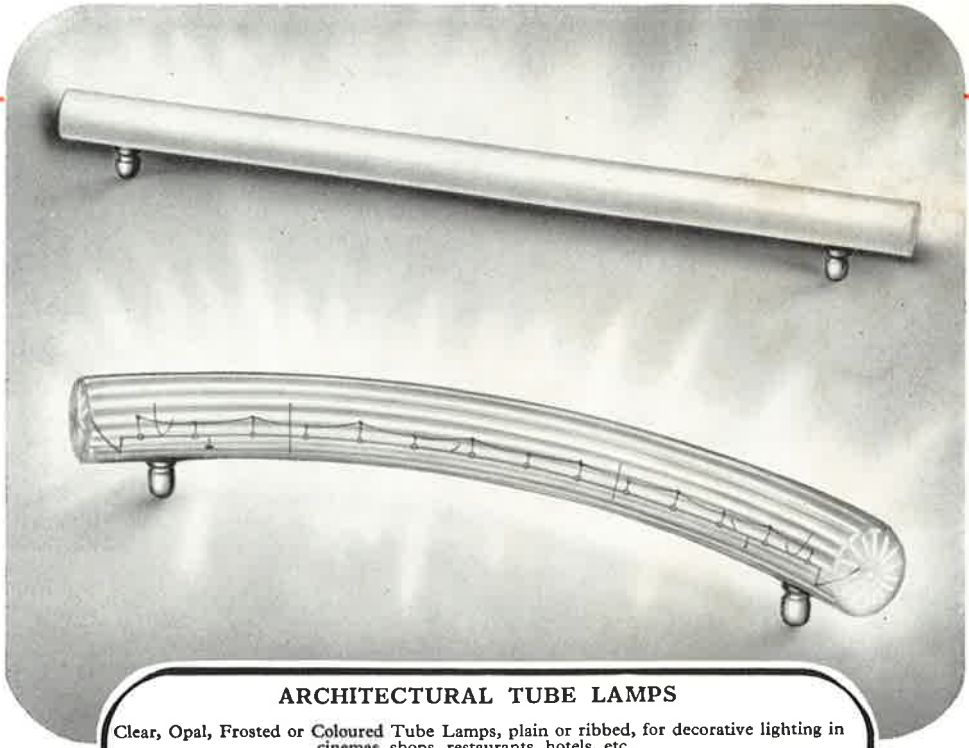
Daylight-Blue Lamps, with natural-colour bulb, giving 'North-sky' lighting effect. A.R.P. 'Blulites,' with blue-sprayed bulb, for black-out service. Nitelite: low-wattage lamps for nurseries, halls, lavatories, etc.

TYPE AND VOLTAGES	Watts	Prices	Approximate dimensions (± B.S.S. tolerances)							
			Length		Bulb diameter		Cap contact to filament centre		Neck diameter	
		s. d.	m/m	in.	m/m	in.	m/m	in.	m/m	in.
A.R.P. 'Blulite' Safety Lamps 200, 210, 220, 230, 240, 250, 260 v.	15	1 9	92.5	3⅝	55	2 3/16	65	2 5/16	30	1 3/16
	25	1 9	100	3 13/16	60	2⅜	70	2¾	33	1 5/16
	40	1 9	110	4 5/16	60	2⅜	80	3⅛	33	1 5/16
	60	1 9	117.5	4⅝	65	2 5/16	85	3 5/16	35	1⅜
Daylight-Blue Lamps 100, 105, 110, 115, 120, 125, 130v. & 200, 210, 220, 230, 240, 250, 260 v.	60	2 2	117.5	4⅝	65	2 5/16	85	3 5/16	35	1⅜
	100	3 3	137.5	5⅜	75	2 15/16	100	3 13/16	39	1½
	150	4 9	160	6¼	80	3⅛	120	4¾	39	1½
Nitelite (Pearl only) 200/250	5/8	1 6	92.5	3⅝	55	2 3/16	65	2 5/16	30	1 3/16

Standard caps: E.S. and B.C.

SERVE YOU LIGHT

Architectural Tubelamps



ARCHITECTURAL TUBE LAMPS

Clear, Opal, Frosted or Coloured Tube Lamps, plain or ribbed, for decorative lighting in cinemas, shops, restaurants, hotels, etc.

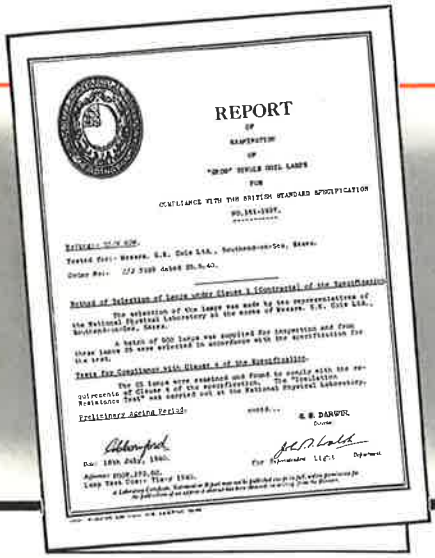
Voltages : 200, 210, 220, 230, 240, 250, 260

TYPE	Length		Dia. 20 m/m (¾ in.) 20 watts per ft., or 30 m/m (1 ⅛ in.) 35 watts per ft.		Dia. 40 m/m (1 ⅝ in.) 60 watts per ft.	
			Clear ribbed, white opal, clear and frosted	Coloured opal and coloured ribbed	Clear ribbed, white opal, clear and frosted	Coloured opal and coloured ribbed
	m/m	in.	s. d.	s. d.	s. d.	s. d.
Straight Lengths	254	10	6 6	7 6	11 3	12 6
	305	12	8 0	9 6	12 9	14 0
	381	15	9 0	10 9	16 0	18 0
	457	18	10 0	11 9	17 0	19 0
	508	20	10 6	12 6	18 0	19 10
	534	21	12 0	13 6	21 0	23 1
Curved Lengths	305	12	15 3	16 10	21 0	23 3
	457	18	18 2	19 11	26 1	28 9
	508	20	18 2	19 11	26 1	28 9
	610	24	21 0	23 3	30 6	33 6

Straight lengths are also available up to 48 ins. (in steps of 3 ins.).
Curved lengths are also available up to 48 ins. (in steps of 6 ins.).
Curved lamps supplied to order in any radius or length between limits of 6 ins. and 48 ins.
Length measured along centre line of tube.

EKCO LAMPS

N.P.L. Report



REPORT

Proof of the efficiency and reliability of Ekco Lamps is given in the reports of tests made by the National Physical Laboratory from which the following extracts were taken. Complete reports, for 60-watt and 100-watt ratings, can be had on application.

Method of selection of lamps under Clause 1 (Contracts) of the Specification.

The selection of the lamps was made by two representatives of the National Physical Laboratory at the works of Messrs. E. K. Cole, Ltd., Southend-on-Sea, Essex.

A batch of 500 lamps was supplied for inspection and from these lamps 25 were selected in accordance with the specification for the test.

Table No. 1.

Initial rating measurements on twenty-five 230 v. 60 w. (Rating) Ekco Single-Coil Lamps.

	Lumens	Watts	Lumens per Watt
Mean values for 25 lamps	629	61.83	10.17

The 'Coefficient of Variation' of the initial efficiencies of the lamps was found to be 1.10.

Table No. 2.

Average results at intervals during the life test.

Hours of Burning	Average Lumens of Lamps Burning	Average Watts of Lamps Burning	Average Lumens per Watt of Lamps Burning	Number of Lamps Burning
0	632	61.83	10.22	12
400	603	61.11	9.87	12
610	588	60.79	9.68	12

Summary of results of Life Test.

Average Life of twelve lamps to 1,000 hours .. .. 1,000 hours
Average Efficiency of twelve lamps to 1,000 hours .. .. 9.77 lumens per watt

The batch of 500 lamps represented by those selected and tested as described in this report, complies with the requirements of the British Standard Specification for Tungsten Filament General Service Electric Lamps (No. 161-1937).

The results of the tests described in the Reports from the National Physical Laboratory, referred to above, show that the lamps covered by these Reports also comply fully with the British Standard Specification No. 161-1940.

SERVE YOU LIGHT

General Information

'B' TYPE LAMPS

A complete range of 'B' Type Lamps (6 clear, 6 pearl) is marketed under the trade-name of 'SIRIUS.' Details and terms on application.

SPECIAL LAMPS

This catalogue details only the main ranges of Ekco Lamps; others for special purposes are also available. Enquiries for all types will be welcomed, and we have ample facilities for manufacturing to customers' instructions. Quotations free of charge or obligation.

STANDARD CONTAINERS

Standard containers for Ekco Lamps are designed especially for safe carriage and storage, and hold the following quantities:—

15-100 watts ...	100 or 50 per carton	300 watts ...	12 per carton
150 watts ...	50 ,, ,,	500 watts ...	12 ,, ,,
200 watts ...	24 ,, ,,	1,000 watts ...	4 ,, ,,

Ordering by these standard quantities is strongly recommended.

LAMP CAPS

Bayonet (B.C.)

Small Edison Screw (S.E.S.)

Goliath Edison Screw (G.E.S.)

Edison Screw (E.S.)

Small Bayonet (S.B.C.)

The drawings above illustrate the types of caps fitted to Ekco Lamps. The abbreviations in brackets are those used throughout this catalogue and should be specified in all orders. Other caps can be supplied to special order.

ORDERING

Please state clearly on all orders:—

1. Types of Lamps
2. Clear or Pearl (or colour)
3. Wattages
4. Cap types
5. Exact voltage
6. Quantity of Lamps

E. K. COLE, LTD., Lamp Sales Department
Aston Clinton, Bucks.
'Phone: Aston Clinton 3126

Depots: 25 Cadogan Street, Glasgow, C.2 — 'Phone: Central 5357
14 Redcross Street, Bristol, 2 — ,, Bristol 22269
59 Whitworth St., Manchester, 1 — ,, Central 6711

Terms of Business

E. K. COLE LTD.

Aston Clinton, Bucks.

All orders for Ekco Lamps are accepted and executed on the understanding that the purchaser is bound by the following Conditions of Sale which shall constitute a binding contract.

PRICES AND DISCOUNTS. Subject to alteration by us without notice. All lamps will be invoiced at prices current at the date of despatch by us irrespective of prices ruling at the time of acceptance of order. Re-sellers of Ekco lamps shall sell the lamps at Ekco's current list prices less discounts authorised by Ekco and not otherwise.

PAYMENT. 3¾ per cent. settlement discount allowed for payment within 7 days of date of invoice, or 2½ per cent. if paid by the 20th of month following date of invoice. Approved purchasers desiring to open credit accounts should furnish two satisfactory references and name and address of bankers.

CARRIAGE AND PACKING. Orders over £2, carriage and packing free to any part of Great Britain and Northern Ireland. Orders for less than £2, packing free but carriage extra. Where we are responsible for payment of carriage we have the right to despatch the lamps by the most convenient route. All claims for loss or damage in transit must be made within three days from receipt of goods.

TRANSIT BREAKAGES. Lamps broken in transit will be replaced or their value credited at our option, provided that such breakage is proved to be due to faulty packing, and that the lamps are returned, carriage paid, within seven days of receipt.

DELIVERY. Every effort will be made on our part to meet our customers' demands as regards deliveries, and it must be understood that all orders are accepted by us on this understanding and that we are not to be held responsible in damages or otherwise for failure or delay in delivery resulting wholly or in part from fire strikes or from any breakdown in transit that may occur either to or from our works or from the unavoidable total or partial stoppage of works or from war or failure in supply of raw material or from any other cause beyond our reasonable control.

GUARANTEE. Ekco lamps conform with the current specification of the British Standards Institute and any Ekco lamp proved defective through faulty material or workmanship will be replaced or the value credited at our option providing that such lamps are returned to our Lamp Works carriage paid and duly advised.

LEGAL CONSTRUCTION. This contract shall be construed according to the Law of England and if any question dispute or difference shall arise between the parties hereto in respect of the construction of this Agreement or their respective rights duties or liabilities hereunder the same shall be referred to a single arbitrator in London in case the parties can agree upon one but otherwise the same shall be referred to arbitration in London under the provision of the Arbitration Acts 1889 to 1934 or any statutory modification or re-enactment thereof which said provisions shall also apply to the case of a reference to a single arbitrator.

E. K. COLE LTD., ASTON CLINTON, BUCKS.

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Raithby, Lawrence & Co. Ltd., Slater Street, Leicester.