



COLOUR CORRECTED

## **BLOOMED PROJECTION LENS**

*(Kershaw Process, Patent Pending)*

**TYPE "H"**

CONSTANT F/VALUE

THE introduction of the Kalee Type "H" Projection Lenses is the result of intensive research, and constitutes the highest achievement in the science of optical design and the transmission of light for cinematograph projection.

The most highly trained brains and labour have been combined to bring these projection lenses as near as possible to perfection. The optical units have been computed by mathematicians, the anti-reflection surface treatment of the lenses has been carried out by scientists under controlled laboratory conditions, and the instruments have been made throughout by craftsmen.

The Kalee type "H" lenses will give maximum possible screen brightness, perfect image contrast and, most important of all, true colour rendering, *provided* that you will observe the following simple instructions on the care and maintenance of these valuable instruments.



## BLOOMED LENSES

### A brief technical explanation of the Kershaw Colour Corrected Blooming Process for Projection Lenses

IT is a well-known optical phenomenon that under normal conditions, a loss of over 5% of light occurs on passing through on air-to-glass surface. "Blooming" of the lens surface eliminates most of this loss, and restores the light to the projected beam. A projection lens containing four to six air-to-glass surfaces must fail to transmit a considerable proportion of the light it receives from the Arclamp via the gate "Blooming," therefore, has two obvious advantages:—

1. *The image or screen is brighter due to increased transmission of light.*
2. *Contrast and definition are improved owing to the almost complete elimination of stray light reflected to and fro between the various lens surfaces.*

Experiments have proved that, normally, this advantage can only be secured at the cost of affecting the colour of the light. This is readily seen by examining a bloomed surface by reflected daylight; it appears purple instead of white. In a similar way, if a first-class Arclamp and screen, both in perfect working condition, are employed, it will be seen that an ordinary "bloomed" lens provides a brighter screen, but of pale yellow colour, which is frequently associated with the use of poor carbons or the result of dirty lens surfaces or screen, etc.

Kershaw "colour corrected" blooming is an invention from the Kershaw research laboratories and is a modification of the normal process designed to overcome this disadvantage. The composition of the transmitted light is carefully adjusted so

that the screen appears a brilliant white, while preserving all the other advantages of ordinary blooming.

It is easy to recognise a Kalee colour corrected lens. Examine it by reflected light, the lens surfaces appear straw coloured—distinct from the purple of ordinary bloomed lenses. Remember, the straw coloured lens guarantees a brilliant white screen.

G.B.-Kalee service depots are staffed by competent engineers, anxious and ready to assist you to enjoy 100% satisfaction and efficiency from our all-British Kalee equipment.



*Your service depots are:*

Head Office:

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60/66, WARDOUR STREET, W.1.

Telephone: Gerrard 9531 (10 lines)

Telegrams: GEBEKAY, WESDO, LONDON.

BELFAST: 43, Donegall Street	Tel. 27065
BIRMINGHAM: 57, John Bright Street	Tel. Midland 2351
CARDIFF: 9, Park Lane	Tel. 7676
DUBLIN: 30, Lower Abbey Street	Tel. 75059
GLASGOW: 211, Hope Street	Tel. Douglas 0601/2
LEEDS: 17, Wellington Street	Tel. 20597/8
MANCHESTER: Parsonage Chambers, 5, The Parsonage	Tel. Blackfriars 1428/9
NEWCASTLE: 2, Cross Street	Tel. 23038

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# PROJECTION TABLE FOR CINEMATOGRAPH LENSES

SHOWING WIDTH OF SCREEN PICTURE AT DIFFERENT DISTANCES WITH LENSES OF DIFFERENT FOCAL LENGTHS  
 "TALKIE" MASK APERTURE 0.825 in. WIDE.

Distance Lens to Screen. Feet.	FOCUS OF LENS IN INCHES																			
	3 in.	3 1/4 in.	3 1/2 in.	3 3/4 in.	4 in.	4 1/4 in.	4 1/2 in.	4 3/4 in.	5 in.	5 1/4 in.	5 1/2 in.	5 3/4 in.	6 in.	6 1/4 in.	6 1/2 in.	6 3/4 in.	7 in.	Width of Picture		
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.		in.	
20	5	5	0	4	7	4	3	4	0	3	9	3	7	3	4	3	2		3	1
25	6	9	6	3	5	9	5	5	1	4	9	4	6	4	3	4	0	3	10	3
30	8	2	7	6	7	0	6	6	1	5	9	5	5	1	4	10	4	7	4	5
35	9	6	8	9	8	2	7	7	1	6	8	6	4	6	0	5	8	5	5	2
40	10	1	10	1	9	4	8	8	2	7	8	7	3	6	10	6	6	2	5	1
45	12	3	11	4	10	6	9	9	2	8	7	8	2	7	8	7	4	7	0	6
50	13	8	12	7	11	8	10	1	10	2	9	7	9	1	8	7	8	2	7	5
55	15	0	13	10	12	0	11	3	10	7	10	0	9	5	9	0	8	6	8	2
60	16	5	15	1	14	0	13	1	12	3	11	6	10	1	10	4	9	9	4	8
65	17	9	16	5	15	3	14	2	13	4	12	6	11	10	1	11	2	10	7	10
70	19	2	17	8	16	5	15	3	14	4	13	6	12	11	5	10	1	11	0	5
75	20	6	18	1	17	7	16	5	15	4	14	5	13	8	12	11	2	3	11	8
80	21	1	20	2	18	9	17	6	16	5	15	5	14	5	13	8	12	11	2	3
85	23	3	21	6	19	1	18	7	17	5	16	5	15	6	14	8	13	11	3	12
90	24	8	22	9	21	1	19	8	18	5	17	4	16	5	15	6	14	9	14	0
95	26	0	24	0	22	3	20	9	19	6	18	4	17	4	16	5	15	7	14	10
100	27	5	25	3	23	6	21	1	20	6	19	4	18	3	17	3	16	5	15	7
105	28	9	26	7	24	8	23	0	21	7	20	3	19	2	18	2	17	2	16	5
110	30	2	27	10	25	10	24	1	22	7	21	3	20	1	19	0	18	0	17	2
115	31	6	29	12	27	0	25	2	23	7	22	3	21	0	19	10	18	0	17	2
120	32	1	30	4	28	2	26	3	24	8	23	2	22	1	20	9	19	8	17	1
125	34	3	31	7	29	4	27	5	25	8	24	2	22	10	21	7	20	6	18	9
130	35	8	32	1	30	6	28	6	26	8	25	1	23	9	22	6	21	4	20	4
135	37	0	34	2	31	9	29	7	27	9	26	1	24	8	23	4	22	2	21	9
140	38	5	35	5	32	1	30	8	28	9	27	1	25	7	24	2	23	0	21	1
145	39	9	36	8	34	1	31	9	29	10	28	0	26	6	25	1	23	10	22	8
150	41	2	38	0	35	3	32	1	30	10	29	0	27	5	25	1	24	8	23	6

The height of the picture is approximately  $\frac{3}{4}$  the width.