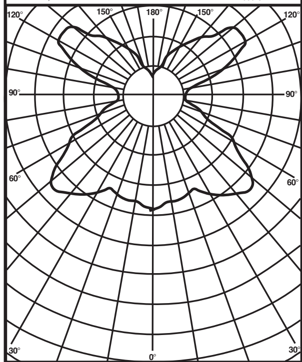
PHOTOMETRIC TEST REPORT
HOLOPHANE CORPORATION
HOLOPHANE RESEARCH & DEVELOPMENT CENTER
NEWARK, OHIO 43055

600 CD/DIV



DISTRIBUTION DATA

VERTICAL ANGLE	CANDLE POWER	ZONAL LUMENS
0	2305	
5	2236	213
10	2142	
15	2158	612
20	2140	
25	2153	997
30	2306	
35	2451	1540
40	2645	
45	2771	2146
50	2616	
55	2212	1985
60	1724	
65	1324	1315
70	1015	
75	818	865
80	724	
85	677	739
90	675	
95	745	813
105	1063	1124
115	1917	1903
125	2063	1851
135	1646	1275
145	1252	786
155	881	408
165	572	162
175	431	41
180	341	

TEST OF HOLOPHANE
BL2X250MHXXM PRISMGLO MENTOR

POSITION OF LAMP Set Position

LAMP 250W Coated MH **LUMENS** 23000

WATTS 250 **BULB TYPE** E-28

TEST DISTANCE 25 ft. **S.C.** 1.8

OUTPUT DATA

ZONAL DEGREES	ZONAL LUMENS	TOTAL EFFIC.
0-30	1822	8.9
30-60	5671	27.7
60-90	2919	14.2
0-90	10411	50.8
90-180	8363	40.8
0-180	18774	91.6

TESTED BY Wanda Newland CERTIFIED BY B.L. Slottebeck

TEST NO. **42343**

Figure 1

Coefficient of Utilization

	ρfc	20%								
	ρcc	80%			70%			50%		
	ρw	50%	30%	10%	50%	30%	10%	50%	30%	0%
RCR	0	.99	.99	.99	.92	.92	.92	.79	.79	.79
	1	.85	.80	.77	.78	.75	.72	.67	.64	.62
	2	.73	.67	.61	.68	.62	.57	.58	.54	.50
	3	.63	.56	.50	.59	.52	.47	.50	.45	.41
	4	.56	.48	.42	.52	.45	.39	.44	.39	.34
	5	.49	.41	.35	.46	.38	.33	.39	.33	.29
	6	.44	.36	.30	.41	.33	.28	.35	.29	.25
	7	.39	.31	.26	.36	.29	.24	.31	.26	.22
	8	.35	.28	.23	.33	.26	.21	.28	.23	.19
	9	.32	.25	.20	.30	.23	.19	.26	.20	.17
	10	.29	.22	.18	.27	.21	.17	.24	.18	.15

Figure 2

Isofootcandle chart

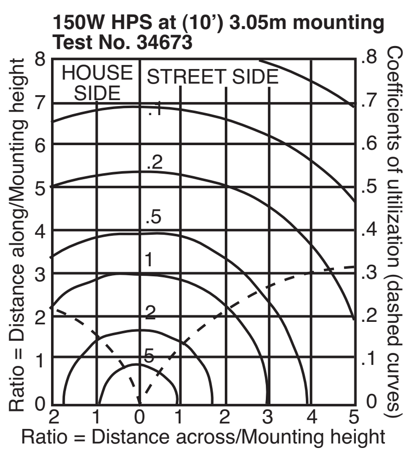


Figure 3

"Photometry" means "the measurement of light." The term "photometry" is often used to define any test data which describe the characteristics of a luminaire's light output. The most common type of photometric data include candlepower distribution curves, spacing criteria, luminaire efficiency, isofootcandle charts, coefficients of utilization and luminance data. The purpose of a photometric report is to accurately describe the performance of a luminaire, to enable the designer to select the lighting equipment and design a fixture layout which best meets the needs of the job.

Following is a review of the more frequently used types of photometric data.

Candlepower distribution curve

The photometric distribution curve is one of the lighting designer's most valuable tools. It is a cross-sectional "map" of intensity (candelas) measured at many different vertical angles. It is a two-dimensional representation and therefore shows data for one plane only. If the distribution of the unit is symmetric, the curve in one plane is sufficient for all calculations. If asymmetric, such as with street lighting and fluorescent units, three or more planes are required. In general, incandescent and HID reflector units are described by a single vertical plane of photometry. Fluorescent luminaires require a minimum of one plane along the lamp axis, one across the lamp axis and one at a 45° angle. The greater the departure from symmetry, the more planes that are needed for accurate calculations. ***See figure 1***

Coefficient of utilization

A coefficient of utilization refers to the ratio of lumens which ultimately reach the work plane to the total lumens generated by the lamp. CU figures are necessary for hand calculating average illuminance levels and are provided in one of two ways: a CU table or a utilization curve. A utilization curve is usually provided for units intended for outdoor use or units with a distribution radically asymmetric. A CU table is provided for units which are used primarily indoors. Use of CU data will be discussed in the section covering calculation methods. ***See figure 2***

Isofootcandle chart

Isofootcandle charts are used to describe the light pattern produced by a luminaire. These charts are derived from the candlepower data and show exact plots or lines of equal footcandle levels on the work plane when the fixture is at a designated mounting height. Use of isofootcandle charts in determining illuminance at designated points will be discussed in the point calculations section. ***See figure 3***

Spacing criteria

Spacing criteria provide the designer with information regarding how far apart luminaires may be spaced while maintaining acceptable illumination uniformity on the work plane. Criteria for spacing are generally conservative; they take into account the direct component of illumination only and ignore the indirect component of light, which can contribute significantly to the uniformity. However, used within its limits, a Spacing Criterion can be useful. To use the Spacing Criterion, multiply the net mounting height (luminaire to work plane) by the Spacing Criterion number. This ratio is used predominantly with the Zonal Cavity Method of calculation.

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