



LUMINAIRE TESTING LABORATORY, INC.



SUSTAINING
MEMBER

905 Harrison Street · Allentown, PA 18103 · (610) 770-1044 · Fax (610) 770-8912 · www.LuminaireTesting.com

LTL NUMBER: 07116

DATE: 11-22-2002

PREPARED FOR: MERCURY LIGHTING PRODUCTS COMPANY INC.

CATALOG NUMBER: M99-232-OCT-ELB-120V

LUMINAIRE: FORMED STEEL HOUSING, FORMED WHITE ENAMEL STEEL REFLECTOR,
NO ENCLOSURE.

LAMPS: TWO SYLVANIA FO32/735 RATED AT 2850 LUMENS EACH.

BALLAST: ONE K-TRONIK KT232/IS/120S

MOUNTING: CEILING

LUMEN TO CANDELA RATIO USED = 9.18

TOTAL INPUT WATTS = 56.8 AT 120.0 VOLTS

THE 0 DEGREE PLANE IS PERPENDICULAR TO THE LAMPS.

CANDELA DISTRIBUTION										FLUX
	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	
0	792	792	792	792	792	792	792	792	792	
5	917	899	878	835	788	744	700	664	661	75
15	1130	1094	1021	903	761	612	471	376	349	211
25	1259	1207	1109	936	706	456	240	113	75	313
35	1342	1279	1143	926	624	286	39	0	0	390
45	1394	1316	1134	871	525	127	0	0	0	451
55	1395	1306	1103	797	404	8	0	0	0	484
65	1406	1289	1026	683	271	0	0	0	0	493
75	1409	1279	973	546	140	0	0	0	0	481
85	1389	1254	938	471	23	0	0	0	0	461
90	1359	1221	902	445	1	0	0	0	0	
95	1314	1174	857	389	0	0	0	0	0	418
105	1179	1038	709	247	0	0	0	0	0	341
115	964	824	525	91	0	0	0	0	0	238
125	706	569	286	1	0	0	0	0	0	136
135	388	279	73	0	0	0	0	0	0	54
145	103	36	0	0	0	0	0	0	0	8
155	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	598	10.5	13.1
0- 40	989	17.3	21.7
0- 60	1924	33.8	42.2
0- 90	3359	58.9	73.7
90-120	998	17.5	21.9
90-130	1134	19.9	24.9
90-150	1196	21.0	26.3
90-180	1196	21.0	26.3
0-180	4555	79.9	100.0

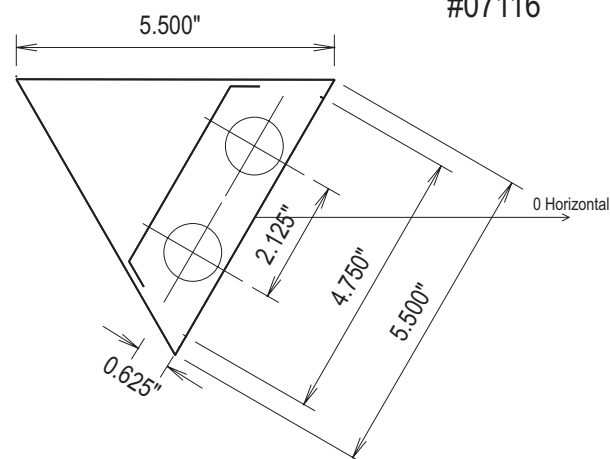
TOTAL LUMINAIRE EFFICIENCY: 79.9%

TOTAL REFLECTANCE OF PAINT: 86.6%

CIE TYPE: SEMI-DIRECT

PLANE: 0-DEG 90-DEG 180-DEG

SPACING CRITERIA: 2.3 1.2 0.4



TESTED BY HERSCHEL SCHRECK
CHECKED BY MIKE GRATHER

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IES PROCEDURES.



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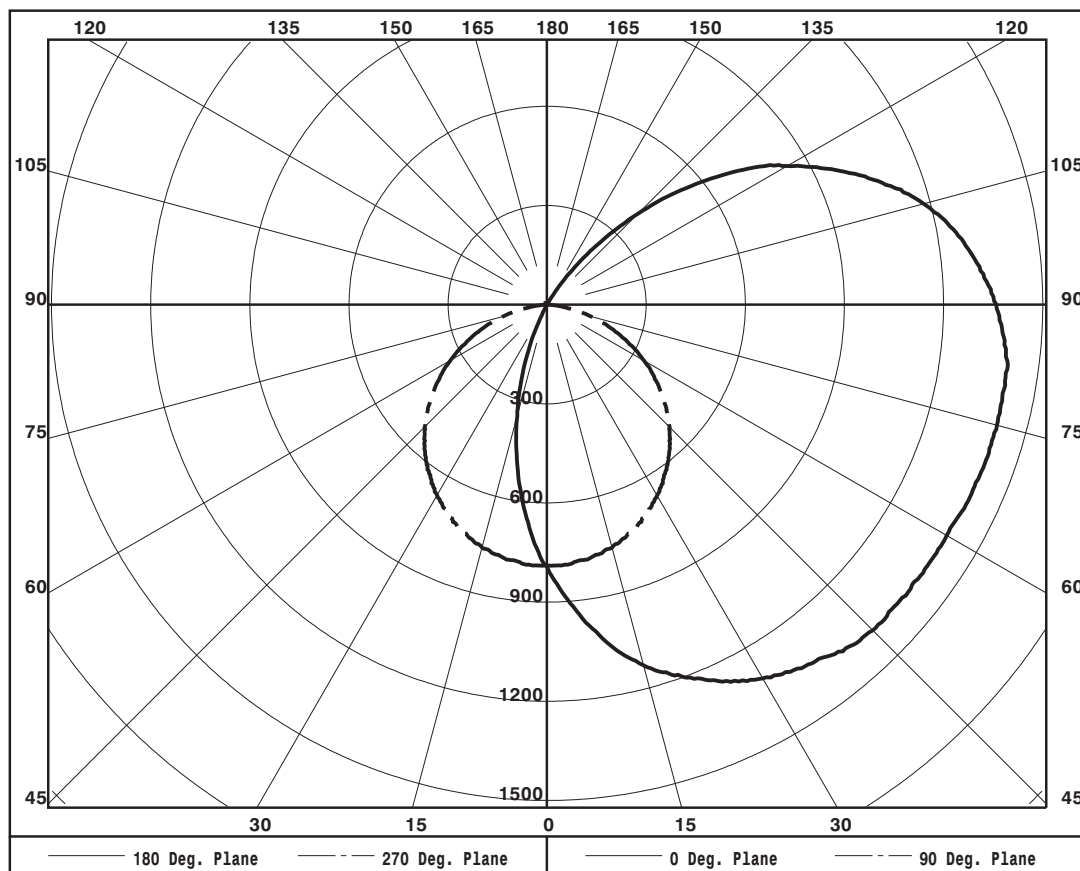
ZONAL LUMEN SUMMARY

0- 5	19.
5- 10	56.
10- 15	90.
15- 20	121.
20- 25	146.
25- 30	167.
30- 35	186.
35- 40	204.
40- 45	220.
45- 50	231.
50- 55	239.
55- 60	245.
60- 65	246.
65- 70	246.
70- 75	243.
75- 80	238.
80- 85	234.
85- 90	227.
90- 95	217.
95-100	201.
100-105	183.
105-110	158.
110-115	133.
115-120	106.
120-125	80.
125-130	56.
130-135	36.
135-140	18.
140-145	7.
145-150	1.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.

PLANE: 0-DEG 90-DEG
LUMINOUS LENGTH: 2.375 48.000
HEIGHT OF SIDE: 4.125 0.000

LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	10768.	10768.	10768.
45	9810.	9800.	10094.
55	9519.	9510.	9576.
65	9594.	9101.	8718.
75	9916.	9175.	7354.
85	10418.	9755.	3588.





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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	90	90	90	90	86	86	86	86	77	77	77	69	69	69	62	62	62	59
1	79	74	70	66	75	70	66	63	63	60	57	56	54	52	50	48	46	43
2	71	63	57	51	67	60	54	49	53	49	45	48	44	40	42	39	37	34
3	64	55	47	42	60	52	45	40	46	41	37	41	37	33	37	33	30	27
4	58	48	40	35	55	45	39	33	41	35	30	36	32	28	32	28	25	23
5	53	42	34	29	50	40	33	28	36	30	25	32	27	23	28	24	21	19
6	49	37	30	24	46	35	29	23	32	26	22	29	24	20	25	21	18	16
7	45	33	26	21	42	32	25	20	29	23	19	26	21	17	23	19	16	14
8	41	30	23	18	39	29	22	17	26	20	16	23	18	15	21	17	13	12
9	38	27	20	16	36	26	19	15	23	18	14	21	16	13	19	15	12	10
10	35	25	18	14	33	23	17	13	21	16	12	19	14	11	17	13	10	9

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.

THIS TEST WAS CONDUCTED USING RELATIVE PHOTOMETRY TECHNIQUES ACCORDING TO STANDARD IESNA PROCEDURES. THE USER MUST THEREFORE USE CAUTION IN THE FOLLOWING SITUATIONS: 1) THIS TEST WAS PERFORMED USING A SPECIFIC BALLAST/LAMP COMBINATION. EXTRAPOLATION OF THESE DATA FOR OTHER BALLAST/LAMP COMBINATIONS MAY PRODUCE ERRONEOUS RESULTS. 2) ACCORDING TO IESNA PROCEDURES, THE BALLAST(S) AND LAMP(S) ARE PRESUMED TO PRODUCE 100% OF RATED OUTPUT. AN APPROPRIATE BALLAST FACTOR MUST BE APPLIED TO THE LUMEN OUTPUT RATINGS AND LUMINOUS INTENSITY VALUES GIVEN. 3) THIS TEST WAS CONDUCTED IN A CONTROLLED LABORATORY ENVIRONMENT WHERE THE AMBIENT TEMPERATURE WAS HELD AT 25 C ± 1 C. FIELD PERFORMANCE MAY DIFFER PARTICULARLY IN REGARDS TO CHANGE IN LUMINOUS OUTPUT AS A RESULT OF DIFFERENCE IN AMBIENT TEMPERATURE AND METHOD OF MOUNTING THE LUMINAIRE.



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VISUAL COMFORT PROBABILITY TABLE

RATED LUMENS PER LAMP 2850.

100. FC. ROOM		REFLECTANCES 80/50/20 LUMINAIRES 0 DEG PLANE				LUMINAIRES 90 DEG PLANE			
W	L	8.5	10.0	13.0	16.0	8.5	10.0	13.0	16.0
20	20	3	7	15	30	9	15	28	46
20	30	1	2	5	12	7	11	17	29
20	40	0	1	2	5	6	9	14	21
20	60	0	0	1	2	5	8	12	17
30	20	4	7	14	28	7	12	21	37
30	30	1	3	5	12	5	8	13	23
30	40	1	1	2	5	4	6	10	16
30	60	0	1	1	2	3	5	8	12
30	80	0	0	1	1	3	5	8	11
40	20	4	8	15	27	6	10	18	31
40	30	2	3	6	12	4	6	11	19
40	40	1	1	3	5	3	5	8	13
40	60	0	1	1	2	3	4	6	10
40	80	0	0	1	1	3	4	6	9
40	100	0	0	0	1	3	4	6	9
60	30	2	4	6	12	3	5	9	16
60	40	1	2	3	6	3	4	7	11
60	60	0	1	1	3	2	3	5	8
60	80	0	0	1	1	2	3	5	7
60	100	0	0	0	1	2	3	5	7
100	40	1	2	4	7	2	4	5	9
100	60	1	1	2	3	2	3	4	7
100	80	0	1	1	2	2	2	4	6
100	100	0	0	1	1	1	2	3	5

THIS TABLE WAS CALCULATED ACCORDING TO IESNA LM-42-72. THE VCP CALCULATION PROCEDURE IS MOST ACCURATE FOR LUMINAIRES THAT EXHIBIT THE FOLLOWING CHARACTERISTICS. 1). LUMINAIRE IS RELATIVELY CONSISTANT IN LUMINANCE 2). LUMINAIRE HAS WELL-DEFINED LUMINOUS EDGES AND 3). LUMINAIRE UTILIZES FLUORESCENT LAMPS. CAUTION SHOULD BE USED WHEN APPLYING VCP VALUES BASED ON LUMINAIRES THAT DO NOT CONFORM TO THE ABOVE CONDITIONS.