



LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING
MEMBER
of the
IESNA

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

LTL NUMBER: 15062

DATE: 04-17-2009

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: LM3P-01-X-TWA-X-120-T8

LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, TRANSLUCENT WHITE ACRYLIC LOWER LENSES, OPEN TOP.

LAMP: ONE 32 WATT T8 LINEAR FLUORESCENT LAMP RATED AT 2850 LUMENS.

LAMP CATALOG NUMBER: SYLVANIA FO32/741/ECO

BALLAST: ONE SYLVANIA QTP1X32T8/UNV-ISON-SC

MOUNTING: WALL

ELECTRICAL VALUES: 120.0VAC, 0.2442A, 29.06W

Candela Distribution

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	
5	12	11	10	10	10	12	12	11	12	11	12	12	10	10	10	11	1.0
15	13	11	10	10	10	12	10	9	10	9	10	12	10	10	10	11	2.9
25	12	11	10	9	9	9	8	7	8	7	8	9	9	9	10	11	4.2
35	12	11	10	8	8	7	6	5	6	5	6	7	8	8	10	11	5.0
45	11	10	9	7	6	5	4	3	3	3	4	5	6	7	9	10	4.9
55	10	9	7	6	4	2	1	1	1	1	1	2	4	6	7	9	3.9
65	8	7	6	4	2	0	0	0	0	0	0	0	2	4	6	7	2.8
75	6	5	4	2	0	0	0	0	0	0	0	0	0	2	4	5	1.8
85	4	3	2	0	0	0	0	0	0	0	0	0	0	0	2	3	1.0
90	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
95	121	122	121	105	13	33	77	87	87	87	77	33	13	105	121	122	87.3
105	468	470	420	235	75	63	83	128	146	128	83	63	75	235	420	470	230.6
115	643	593	480	328	151	126	123	126	130	126	123	126	151	328	480	593	287.4
125	685	643	542	396	229	207	184	182	182	182	184	207	229	396	542	643	314.4
135	704	675	586	390	300	282	253	243	241	243	253	282	300	390	586	675	310.0
145	710	682	585	425	363	348	331	315	307	315	331	348	363	425	585	682	278.2
155	638	594	505	449	413	404	391	385	381	385	391	404	413	449	505	594	211.2
165	527	522	497	440	448	444	438	432	431	432	438	444	448	440	497	522	130.6
175	455	453	450	455	467	469	465	463	464	463	465	469	467	455	450	453	43.9
180	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	8.2	0.3%	0.4%
0-40	13.2	0.5%	0.7%
0-60	22.0	0.8%	1.1%
0-90	27.6	1.0%	1.4%
90-180	1893.6	66.4%	98.6%
0-180	1921.1	67.4%	100.0%

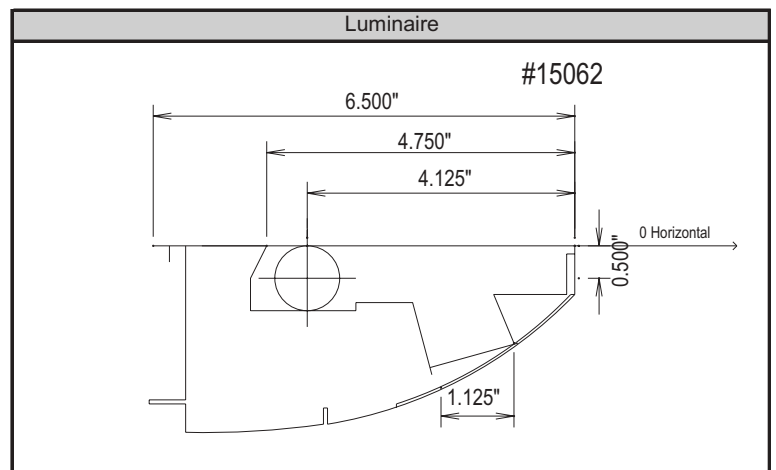
Total luminaire efficiency: 67.4%

CIE Type:

Indirect

Spacing Criterion:

0 deg: 1.59 90 deg: 1.11
180 deg: 0.95 270 deg: 1.11



Approved By: MG

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



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Candela Tabulation (5 degree Vertical Increments)

	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
0	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
5	12	11	10	10	10	12	12	11	12	11	12	12	10	10	10	11
10	12	11	10	10	10	12	12	10	11	10	12	12	10	10	10	11
15	13	11	10	10	10	12	10	9	10	9	10	12	10	10	10	11
20	12	11	10	9	9	11	9	8	9	8	9	11	9	9	10	11
25	12	11	10	9	9	9	8	7	8	7	8	9	9	9	10	11
30	12	11	10	9	8	8	7	6	7	6	7	8	8	9	10	11
35	12	11	10	8	8	7	6	5	6	5	6	7	8	8	10	11
40	11	11	9	8	7	6	5	4	4	4	5	6	7	8	9	11
45	11	10	9	7	6	5	4	3	3	3	4	5	6	7	9	10
50	11	10	8	6	5	4	3	2	2	2	3	4	5	6	8	10
55	10	9	7	6	4	2	1	1	1	1	1	2	4	6	7	9
60	9	8	6	5	3	1	0	0	0	0	0	1	3	5	6	8
65	8	7	6	4	2	0	0	0	0	0	0	0	2	4	6	7
70	7	6	5	3	1	0	0	0	0	0	0	0	1	3	5	6
75	6	5	4	2	0	0	0	0	0	0	0	0	0	2	4	5
80	5	4	2	1	0	0	0	0	0	0	0	0	0	1	2	4
85	4	3	2	0	0	0	0	0	0	0	0	0	0	0	2	3
90	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
95	121	122	121	105	13	33	77	87	87	87	77	33	13	105	121	122
100	296	294	279	199	40	39	90	138	156	138	90	39	40	199	279	294
105	468	470	420	235	75	63	83	128	146	128	83	63	75	235	420	470
110	615	585	441	279	112	92	95	116	130	116	95	92	112	279	441	585
115	643	593	480	328	151	126	123	126	130	126	123	126	151	328	480	593
120	662	625	508	365	190	165	152	153	154	153	152	165	190	365	508	625
125	685	643	542	396	229	207	184	182	182	182	184	207	229	396	542	643
130	691	658	574	400	266	246	217	212	211	212	217	246	266	400	574	658
135	704	675	586	390	300	282	253	243	241	243	253	282	300	390	586	675
140	716	686	597	402	333	316	296	275	272	275	296	316	333	402	597	686
145	710	682	585	425	363	348	331	315	307	315	331	348	363	425	585	682
150	696	664	535	448	390	378	365	352	349	352	365	378	390	448	535	664
155	638	594	505	449	413	404	391	385	381	385	391	404	413	449	505	594
160	550	532	505	440	433	427	416	409	409	409	416	427	433	440	505	532
165	527	522	497	440	448	444	438	432	431	432	438	444	448	440	497	522
170	500	487	459	444	460	458	454	452	452	452	454	458	460	444	459	487
175	455	453	450	455	467	469	465	463	464	463	465	469	467	455	450	453
180	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	0.3	45-50	2.4	90-95	17.7	135-140	152.8
5-10	0.8	50-55	2.1	95-100	69.6	140-145	145.1
10-15	1.3	55-60	1.8	100-105	103.4	145-150	133.0
15-20	1.7	60-65	1.5	105-110	127.2	150-155	115.7
20-25	2.0	65-70	1.3	110-115	139.5	155-160	95.4
25-30	2.3	70-75	1.0	115-120	147.9	160-165	75.6
30-35	2.4	75-80	0.8	120-125	155.7	165-170	54.9
35-40	2.5	80-85	0.6	125-130	158.7	170-175	32.9
40-45	2.5	85-90	0.4	130-135	157.2	175-180	11.1



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Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
Wall Reflectance	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.741	0.741	0.741	0.741	0.644	0.644	0.644	0.644	0.552	0.552	0.552	0.552
1	0.675	0.642	0.612	0.585	0.586	0.559	0.535	0.513	0.501	0.479	0.46	0.442
2	0.615	0.559	0.513	0.475	0.533	0.487	0.449	0.418	0.455	0.418	0.388	0.362
3	0.561	0.49	0.436	0.393	0.485	0.427	0.382	0.347	0.414	0.367	0.331	0.301
4	0.512	0.431	0.373	0.329	0.443	0.376	0.328	0.291	0.377	0.324	0.284	0.253
5	0.468	0.381	0.322	0.278	0.405	0.333	0.283	0.246	0.345	0.287	0.246	0.215
6	0.429	0.339	0.28	0.238	0.371	0.297	0.247	0.211	0.316	0.256	0.214	0.184
7	0.395	0.303	0.245	0.205	0.341	0.266	0.217	0.182	0.291	0.229	0.188	0.159
8	0.364	0.273	0.217	0.178	0.315	0.239	0.191	0.158	0.269	0.206	0.166	0.139
9	0.337	0.247	0.192	0.156	0.292	0.216	0.17	0.139	0.249	0.187	0.148	0.121
10	0.313	0.224	0.172	0.137	0.271	0.196	0.152	0.122	0.231	0.17	0.132	0.107

Ceiling Cavity Reflectance	50				30			10			0
Wall Reflectance	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.38	0.38	0.38	0.38	0.222	0.222	0.222	0.078	0.078	0.078	0.01
1	0.343	0.331	0.319	0.308	0.194	0.188	0.183	0.068	0.066	0.065	0.008
2	0.311	0.289	0.271	0.255	0.17	0.16	0.152	0.06	0.057	0.054	0.007
3	0.282	0.254	0.232	0.213	0.15	0.138	0.128	0.053	0.049	0.046	0.006
4	0.257	0.225	0.2	0.18	0.132	0.119	0.109	0.047	0.043	0.039	0.005
5	0.235	0.199	0.173	0.153	0.118	0.104	0.093	0.042	0.037	0.034	0.004
6	0.215	0.178	0.151	0.131	0.105	0.091	0.08	0.037	0.033	0.029	0.004
7	0.198	0.16	0.133	0.114	0.095	0.08	0.069	0.034	0.029	0.025	0.003
8	0.183	0.144	0.118	0.099	0.086	0.071	0.06	0.031	0.026	0.022	0.003
9	0.17	0.131	0.105	0.087	0.078	0.063	0.053	0.028	0.023	0.02	0.003
10	0.158	0.119	0.094	0.077	0.071	0.057	0.047	0.025	0.021	0.017	0.002

Average Luminance Table (cd/m²)

	0	45	90
0	436	436	436
45	497	415	328
55	507	392	264
65	504	383	164
75	469	335	32
85	482	295	0

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 values 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.

