



# 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: 15059 DATE: 04-13-2009  
 PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING  
 CATALOG NUMBER: LM3P-01-X-PBW-X-120-T5HO  
 LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR, 28 CELL, 3/4" DEEP, FORMED WHITE ENAMEL ALUMINUM LOUVER, OPEN TOP.  
 LAMP: ONE 54 WATT HIGH OUTPUT T5 LINEAR FLUORESCENT LAMP RATED AT 4400 LUMENS.  
 LAMP CATALOG NUMBER: SYLVANIA FP54/841/HO/ECO  
 BALLAST: ONE UNIVERSAL LIGHTING TECHNOLOGIES B254PUNV-D  
 MOUNTING: WALL  
 ELECTRICAL VALUES: 120.0VAC, 0.5225A, 62.50W

### 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	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	
5	23	22	22	24	27	33	36	37	40	37	36	33	27	24	22	22	2.8
15	14	14	16	20	26	41	46	48	50	48	46	41	26	20	16	14	8.5
25	6	7	11	17	24	40	41	42	38	42	41	40	24	17	11	7	11.7
35	3	3	7	14	22	34	26	21	21	21	26	34	22	14	7	3	11.0
45	5	5	6	12	19	23	14	10	10	10	14	23	19	12	6	5	9.2
55	7	7	7	10	15	10	4	0	1	0	4	10	15	10	7	7	6.5
65	88	40	8	9	7	2	0	0	0	0	0	2	7	9	8	40	14.7
75	23	34	35	5	1	0	0	0	0	0	0	0	1	5	35	34	12.5
85	7	5	2	0	0	0	0	0	0	0	0	0	0	0	2	5	1.5
90	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
95	279	276	278	223	25	38	51	56	58	56	51	38	25	223	278	276	148.5
105	882	852	716	508	144	139	113	106	110	106	113	139	144	508	716	852	401.4
115	1073	1001	917	718	280	300	240	213	205	213	240	300	280	718	917	1001	536.5
125	1338	1346	1194	699	413	465	400	358	346	358	400	465	413	699	1194	1346	635.6
135	1522	1454	1168	762	531	607	577	526	511	526	577	607	531	762	1168	1454	639.5
145	1419	1304	1019	769	635	741	707	691	685	691	707	741	635	769	1019	1304	543.2
155	1140	1109	967	764	718	855	825	802	802	802	825	855	718	764	967	1109	404.2
165	943	910	834	755	772	894	916	906	904	906	916	894	772	755	834	910	245.2
175	772	765	756	772	803	844	875	899	911	899	875	844	803	772	756	765	79.4
180	807	807	807	807	807	807	807	807	807	807	807	807	807	807	807	807	

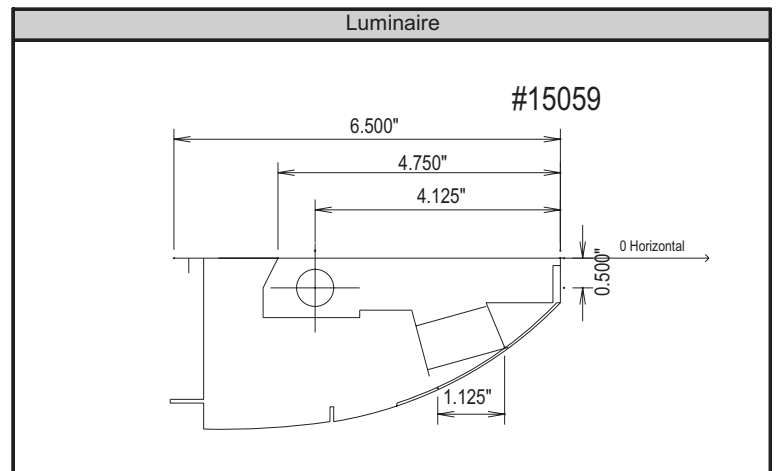
### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	23.0	0.5%	0.6%
0-40	34.1	0.8%	0.9%
0-60	49.8	1.1%	1.3%
0-90	78.5	1.8%	2.1%
90-180	3633.5	82.6%	97.9%
0-180	3712.0	84.4%	100.0%

Total luminaire efficiency: 84.4%

CIE Type: Indirect

Spacing Criterion: 0 deg: 0.50 90 deg: 1.26  
 180 deg: 1.29 270 deg: 1.26



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	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28
5	23	22	22	24	27	33	36	37	40	37	36	33	27	24	22	22
10	19	18	19	22	26	38	44	45	48	45	44	38	26	22	19	18
15	14	14	16	20	26	41	46	48	50	48	46	41	26	20	16	14
20	10	10	14	19	25	41	45	46	50	46	45	41	25	19	14	10
25	6	7	11	17	24	40	41	42	38	42	41	40	24	17	11	7
30	4	5	9	15	23	38	38	28	27	28	38	38	23	15	9	5
35	3	3	7	14	22	34	26	21	21	21	26	34	22	14	7	3
40	4	4	6	13	20	28	19	15	15	15	19	28	20	13	6	4
45	5	5	6	12	19	23	14	10	10	10	14	23	19	12	6	5
50	6	6	7	11	17	16	9	5	5	5	9	16	17	11	7	6
55	7	7	7	10	15	10	4	0	1	0	4	10	15	10	7	7
60	8	8	7	9	12	6	0	0	1	0	0	6	12	9	7	8
65	88	40	8	9	7	2	0	0	0	0	0	2	7	9	8	40
70	130	106	18	8	4	0	0	0	0	0	0	0	4	8	18	106
75	23	34	35	5	1	0	0	0	0	0	0	0	1	5	35	34
80	8	6	4	2	0	0	0	0	0	0	0	0	0	2	4	6
85	7	5	2	0	0	0	0	0	0	0	0	0	0	0	2	5
90	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
95	279	276	278	223	25	38	51	56	58	56	51	38	25	223	278	276
100	656	639	551	359	79	76	77	81	83	81	77	76	79	359	551	639
105	882	852	716	508	144	139	113	106	110	106	113	139	144	508	716	852
110	1058	982	768	646	212	215	173	153	147	153	173	215	212	646	768	982
115	1073	1001	917	718	280	300	240	213	205	213	240	300	280	718	917	1001
120	1126	1115	1114	721	348	389	316	281	271	281	316	389	348	721	1114	1115
125	1338	1346	1194	699	413	465	400	358	346	358	400	465	413	699	1194	1346
130	1480	1425	1222	731	474	535	486	440	425	440	486	535	474	731	1222	1425
135	1522	1454	1168	762	531	607	577	526	511	526	577	607	531	762	1168	1454
140	1529	1426	1083	767	586	676	649	615	598	615	649	676	586	767	1083	1426
145	1419	1304	1019	769	635	741	707	691	685	691	707	741	635	769	1019	1304
150	1247	1148	1027	766	678	801	766	752	751	752	766	801	678	766	1027	1148
155	1140	1109	967	764	718	855	825	802	802	802	825	855	718	764	967	1109
160	1069	1017	893	760	747	890	875	858	853	858	875	890	747	760	893	1017
165	943	910	834	755	772	894	916	906	904	906	916	894	772	755	834	910
170	845	827	787	749	791	872	934	941	944	941	934	872	791	749	787	827
175	772	765	756	772	803	844	875	899	911	899	875	844	803	772	756	765
180	807	807	807	807	807	807	807	807	807	807	807	807	807	807	807	807

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	0.7	45-50	4.3	90-95	32.6	135-140	313.1
5-10	2.2	50-55	3.6	95-100	116.0	140-145	287.9
10-15	3.7	55-60	3.0	100-105	177.0	145-150	255.3
15-20	4.9	60-65	4.1	105-110	224.3	150-155	220.1
20-25	5.8	65-70	10.6	110-115	254.2	155-160	184.1
25-30	5.9	70-75	10.0	115-120	282.3	160-165	143.5
30-35	5.7	75-80	2.5	120-125	309.3	165-170	101.7
35-40	5.3	80-85	0.9	125-130	326.4	170-175	59.9
40-45	4.9	85-90	0.6	130-135	326.4	175-180	19.4



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	0.928	0.928	0.928	0.928	0.808	0.808	0.808	0.808	0.693	0.693	0.693	0.693
1	0.846	0.804	0.766	0.733	0.734	0.7	0.67	0.642	0.628	0.601	0.577	0.555
2	0.77	0.7	0.642	0.594	0.667	0.61	0.563	0.523	0.57	0.524	0.486	0.453
3	0.702	0.613	0.545	0.491	0.608	0.535	0.478	0.433	0.519	0.46	0.414	0.377
4	0.641	0.539	0.466	0.411	0.554	0.471	0.41	0.364	0.473	0.406	0.356	0.317
5	0.586	0.477	0.402	0.348	0.507	0.417	0.354	0.308	0.432	0.359	0.308	0.269
6	0.537	0.424	0.35	0.297	0.465	0.371	0.309	0.264	0.396	0.32	0.268	0.23
7	0.494	0.38	0.307	0.257	0.428	0.333	0.271	0.228	0.365	0.287	0.236	0.199
8	0.456	0.341	0.271	0.223	0.395	0.299	0.239	0.198	0.337	0.259	0.209	0.174
9	0.422	0.309	0.241	0.195	0.366	0.271	0.213	0.174	0.312	0.234	0.186	0.152
10	0.392	0.28	0.215	0.172	0.34	0.246	0.19	0.153	0.29	0.213	0.166	0.134

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	0.479	0.479	0.479	0.479	0.283	0.283	0.283	0.102	0.102	0.102	0.018
1	0.432	0.416	0.402	0.388	0.246	0.239	0.232	0.089	0.087	0.085	0.014
2	0.391	0.363	0.34	0.32	0.215	0.203	0.192	0.078	0.074	0.071	0.011
3	0.355	0.32	0.291	0.267	0.189	0.174	0.162	0.069	0.064	0.06	0.009
4	0.323	0.282	0.251	0.226	0.168	0.151	0.137	0.061	0.055	0.051	0.008
5	0.295	0.25	0.217	0.192	0.149	0.131	0.117	0.054	0.048	0.043	0.007
6	0.271	0.224	0.19	0.165	0.133	0.115	0.101	0.049	0.042	0.038	0.006
7	0.25	0.201	0.167	0.143	0.12	0.101	0.087	0.044	0.038	0.033	0.006
8	0.231	0.181	0.148	0.125	0.108	0.09	0.076	0.04	0.034	0.029	0.005
9	0.214	0.164	0.132	0.109	0.099	0.08	0.067	0.036	0.03	0.026	0.005
10	0.199	0.15	0.118	0.096	0.09	0.072	0.059	0.033	0.027	0.023	0.004

Average Luminance Table (cd/m<sup>2</sup>)

	0	45	90
0	1077	1077	1077
45	213	302	1048
55	345	395	985
65	5449	579	676
75	1899	3331	126
85	836	369	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.

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