



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: 15057

DATE: 04-13-2009

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: LM3P-02-X-PB-X-120-T5HO

LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR, 28 CELL, 3/4" DEEP, FORMED SEMI-SPECULAR ALUMINUM LOUVER, OPEN TOP.

LAMP: TWO 54 WATT HIGH OUTPUT T5 LINEAR FLUORESCENT LAMPS RATED AT 4400 LUMENS EACH.

LAMP CATALOG NUMBER: SYLVANIA FP54/841/HO/ECO

BALLAST: ONE UNIVERSAL LIGHTING TECHNOLOGIES B254PUNV-D

MOUNTING: WALL

ELECTRICAL VALUES: 120.0VAC, 1.009A, 120.85W

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	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	
5	443	434	416	392	360	333	307	289	287	289	307	333	360	392	416	434	34.4
15	547	544	499	419	327	248	236	278	288	278	236	248	327	419	499	544	103.4
25	464	461	465	426	282	196	212	191	152	191	212	196	282	426	465	461	145.4
35	473	429	383	396	226	165	73	33	30	33	73	165	226	396	383	429	154.6
45	494	465	365	300	158	75	14	10	11	10	14	75	158	300	365	465	157.8
55	385	359	324	212	73	7	2	1	3	1	2	7	73	212	324	359	131.0
65	363	282	208	143	7	0	0	0	0	0	0	0	7	143	208	282	102.7
75	137	138	124	15	0	0	0	0	0	0	0	0	0	15	124	138	48.9
85	44	33	12	0	0	0	0	0	0	0	0	0	0	0	12	33	9.9
90	27	19	2	0	0	0	0	0	0	0	0	0	0	0	2	19	
95	338	322	293	228	36	175	183	174	171	174	183	175	36	228	293	322	230.1
105	949	931	870	685	213	352	537	760	798	760	537	352	213	685	870	931	673.0
115	1388	1272	1291	1001	428	601	685	752	811	752	685	601	428	1001	1291	1272	893.2
125	1944	1918	1714	1027	647	803	991	1040	1044	1040	991	803	647	1027	1714	1918	1070.3
135	2207	2132	1670	1141	850	995	1145	1264	1314	1264	1145	995	850	1141	1670	2132	1054.4
145	2028	1881	1545	1207	1028	1196	1244	1344	1390	1344	1244	1196	1028	1207	1545	1881	875.9
155	1743	1688	1489	1259	1174	1364	1371	1387	1408	1387	1371	1364	1174	1259	1489	1688	652.6
165	1508	1473	1374	1289	1276	1409	1489	1495	1495	1495	1489	1409	1276	1289	1374	1473	400.6
175	1335	1320	1308	1311	1336	1381	1411	1439	1461	1439	1411	1381	1336	1311	1308	1320	131.5
180	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	

Zonal Lumen Summary

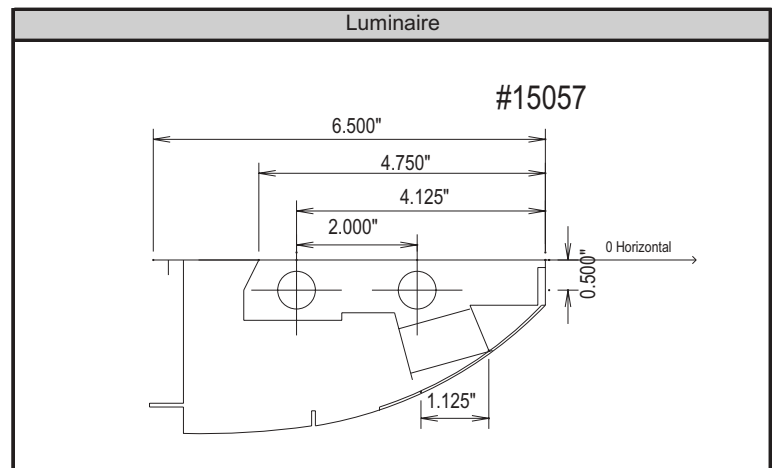
Zone	Lumens	% of Lamp	% of Luminaire
0-30	283.2	3.2%	4.1%
0-40	437.8	5.0%	6.4%
0-60	726.5	8.3%	10.6%
0-90	888.1	10.1%	12.9%
90-180	5981.6	68.0%	87.1%
0-180	6869.7	78.1%	100.0%

Total luminaire efficiency: 78.1%

CIE Type: Semi-Indirect

Spacing Criterion: 0 deg: 1.95 90 deg: 1.07
180 deg: 0.82 270 deg: 1.07

Shielding angle: 0 deg: 31 90 deg: 26



Approved By: MG

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



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

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	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366	366
5	443	434	416	392	360	333	307	289	287	289	307	333	360	392	416	434
10	514	497	460	409	347	291	247	241	246	241	247	291	347	409	460	497
15	547	544	499	419	327	248	236	278	288	278	236	248	327	419	499	544
20	503	503	510	425	306	215	252	245	253	245	252	215	306	425	510	503
25	464	461	465	426	282	196	212	191	152	191	212	196	282	426	465	461
30	445	430	422	422	256	188	168	68	54	68	168	188	256	422	422	430
35	473	429	383	396	226	165	73	33	30	33	73	165	226	396	383	429
40	523	472	358	350	193	121	32	18	18	18	32	121	193	350	358	472
45	494	465	365	300	158	75	14	10	11	10	14	75	158	300	365	465
50	443	417	371	253	118	27	6	5	6	5	6	27	118	253	371	417
55	385	359	324	212	73	7	2	1	3	1	2	7	73	212	324	359
60	323	298	264	180	28	1	0	0	1	0	0	1	28	180	264	298
65	363	282	208	143	7	0	0	0	0	0	0	0	7	143	208	282
70	361	318	166	69	1	0	0	0	0	0	0	0	1	69	166	318
75	137	138	124	15	0	0	0	0	0	0	0	0	0	15	124	138
80	44	43	37	3	0	0	0	0	0	0	0	0	0	3	37	43
85	44	33	12	0	0	0	0	0	0	0	0	0	0	0	12	33
90	27	19	2	0	0	0	0	0	0	0	0	0	0	0	2	19
95	338	322	293	228	36	175	183	174	171	174	183	175	36	228	293	322
100	663	646	581	430	116	250	479	517	519	517	479	250	116	430	581	646
105	949	931	870	685	213	352	537	760	798	760	537	352	213	685	870	931
110	1265	1233	958	891	319	496	558	738	821	738	558	496	319	891	958	1233
115	1388	1272	1291	1001	428	601	685	752	811	752	685	601	428	1001	1291	1272
120	1543	1586	1580	1017	539	708	862	861	875	861	862	708	539	1017	1580	1586
125	1944	1918	1714	1027	647	803	991	1040	1044	1040	991	803	647	1027	1714	1918
130	2134	2042	1759	1096	751	894	1067	1198	1216	1198	1067	894	751	1096	1759	2042
135	2207	2132	1670	1141	850	995	1145	1264	1314	1264	1145	995	850	1141	1670	2132
140	2196	2037	1585	1175	942	1095	1198	1317	1352	1317	1198	1095	942	1175	1585	2037
145	2028	1881	1545	1207	1028	1196	1244	1344	1390	1344	1244	1196	1028	1207	1545	1881
150	1839	1725	1543	1236	1106	1289	1302	1362	1396	1362	1302	1289	1106	1236	1543	1725
155	1743	1688	1489	1259	1174	1364	1371	1387	1408	1387	1371	1364	1174	1259	1489	1688
160	1638	1573	1428	1282	1231	1412	1436	1435	1451	1435	1436	1412	1231	1282	1428	1573
165	1508	1473	1374	1289	1276	1409	1489	1495	1495	1495	1489	1409	1276	1289	1374	1473
170	1400	1389	1346	1293	1309	1403	1478	1527	1528	1527	1478	1403	1309	1293	1346	1389
175	1335	1320	1308	1311	1336	1381	1411	1439	1461	1439	1411	1381	1336	1311	1308	1320
180	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345	1345

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	8.7	45-50	77.6	90-95	48.1	135-140	511.8
5-10	25.7	50-55	70.4	95-100	182.0	140-145	464.5
10-15	43.4	55-60	60.6	100-105	295.3	145-150	411.4
15-20	59.9	60-65	52.0	105-110	377.7	150-155	355.2
20-25	70.9	65-70	50.7	110-115	424.9	155-160	297.4
25-30	74.6	70-75	35.4	115-120	468.2	160-165	233.4
30-35	76.3	75-80	13.6	120-125	521.1	165-170	167.2
35-40	78.3	80-85	5.3	125-130	549.2	170-175	99.2
40-45	80.2	85-90	4.7	130-135	542.6	175-180	32.4



Coefficients of Utilization - Zonal Cavity Method												
Effective Floor Cavity Reflectance 20%												
Ceiling Cavity Reflectance	90				80				70			
	70	50	30	10	70	50	30	10	70	50	30	10
Room Cavity Ratio (RCR)												
0	0.869	0.869	0.869	0.869	0.768	0.768	0.768	0.768	0.671	0.671	0.671	0.671
1	0.793	0.755	0.72	0.689	0.699	0.667	0.639	0.613	0.61	0.584	0.561	0.54
2	0.723	0.658	0.604	0.56	0.636	0.583	0.538	0.501	0.554	0.51	0.474	0.443
3	0.66	0.577	0.514	0.464	0.58	0.511	0.458	0.416	0.505	0.449	0.405	0.369
4	0.603	0.509	0.441	0.39	0.53	0.451	0.394	0.35	0.461	0.396	0.349	0.312
5	0.552	0.451	0.381	0.331	0.485	0.4	0.341	0.298	0.422	0.352	0.302	0.265
6	0.506	0.402	0.333	0.284	0.445	0.357	0.298	0.256	0.387	0.314	0.265	0.228
7	0.466	0.36	0.293	0.246	0.41	0.321	0.263	0.222	0.357	0.283	0.233	0.199
8	0.431	0.325	0.259	0.215	0.379	0.289	0.233	0.194	0.33	0.255	0.207	0.174
9	0.399	0.294	0.231	0.189	0.352	0.263	0.208	0.171	0.307	0.232	0.185	0.153
10	0.371	0.268	0.207	0.167	0.327	0.239	0.186	0.151	0.286	0.211	0.166	0.136

Ceiling Cavity Reflectance	50				30			10			0
	70	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)											
0	0.49	0.49	0.49	0.49	0.324	0.324	0.324	0.172	0.172	0.172	0.101
1	0.444	0.428	0.414	0.4	0.285	0.277	0.269	0.152	0.149	0.146	0.086
2	0.402	0.375	0.351	0.331	0.25	0.237	0.225	0.134	0.128	0.123	0.073
3	0.366	0.33	0.302	0.278	0.221	0.204	0.19	0.119	0.112	0.105	0.062
4	0.334	0.293	0.261	0.236	0.196	0.177	0.162	0.106	0.098	0.09	0.053
5	0.306	0.26	0.227	0.202	0.175	0.155	0.139	0.096	0.086	0.078	0.047
6	0.281	0.233	0.199	0.174	0.158	0.137	0.121	0.087	0.077	0.069	0.041
7	0.26	0.21	0.176	0.152	0.142	0.122	0.106	0.079	0.069	0.061	0.037
8	0.241	0.19	0.157	0.133	0.129	0.109	0.093	0.072	0.062	0.054	0.033
9	0.224	0.173	0.141	0.118	0.118	0.098	0.083	0.066	0.056	0.049	0.03
10	0.209	0.159	0.127	0.105	0.109	0.088	0.074	0.061	0.051	0.044	0.027

Average Luminance Table (cd/m²)

	0	45	90
0	14199	14199	14199
45	22168	17295	8648
55	19801	17911	4945
65	22592	14299	621
75	11268	11686	0
85	5525	1833	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.

LTL Test Number 15057 - Page 3

