



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: 14708

DATE: 02-27-2009

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: LM3S-03-X-4-X-PB-X-120-T8

LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, 48 CELL, 3/4" DEEP, SEMI-SPECULAR ALUMINUM LOUVER, OPEN TOP.

LAMP: THREE 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.

LAMP CATALOG NUMBER: SYLVANIA FO32/741/ECO

BALLAST: ONE SYLVANIA QTP3X32T8/UNV-ISN-SC

MOUNTING: PENDANT

ELECTRICAL VALUES: 120.0VAC, 0.7128A, 85.39W

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	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	
5	396	394	396	399	401	399	396	394	396	394	396	399	401	399	396	394	37.6
15	363	366	375	388	394	388	375	366	363	366	375	388	394	388	375	366	106.3
25	318	324	346	385	397	385	346	324	318	324	346	385	397	385	346	324	162.1
35	259	273	312	315	320	315	312	273	259	273	312	315	320	315	312	273	186.4
45	189	218	236	256	272	256	236	218	189	218	236	256	272	256	236	218	181.1
55	105	139	176	204	222	204	176	139	105	139	176	204	222	204	176	139	152.7
65	9	82	119	151	172	151	119	82	9	82	119	151	172	151	119	82	109.7
75	0	5	58	91	105	91	58	5	0	5	58	91	105	91	58	5	54.5
85	0	0	1	21	33	21	1	0	0	0	1	21	33	21	1	0	10.3
90	0	0	0	6	10	6	0	0	0	0	0	6	10	6	0	0	
95	33	194	218	223	224	223	218	194	33	194	218	223	224	223	218	194	216.8
105	181	553	763	851	872	851	763	553	181	553	763	851	872	851	763	553	700.8
115	367	712	1115	1279	1327	1279	1115	712	367	712	1115	1279	1327	1279	1115	712	973.7
125	557	847	1246	1523	1608	1523	1246	847	557	847	1246	1523	1608	1523	1246	847	1047.7
135	734	965	1283	1535	1628	1535	1283	965	734	965	1283	1535	1628	1535	1283	965	959.5
145	888	1060	1292	1478	1550	1478	1292	1060	888	1060	1292	1478	1550	1478	1292	1060	792.4
155	1013	1122	1277	1397	1444	1397	1277	1122	1013	1122	1277	1397	1444	1397	1277	1122	581.3
165	1101	1153	1232	1296	1321	1296	1232	1153	1101	1153	1232	1296	1321	1296	1232	1153	347.1
175	1149	1157	1171	1186	1193	1186	1171	1157	1149	1157	1171	1186	1193	1186	1171	1157	112.6
180	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	

Zonal Lumen Summary

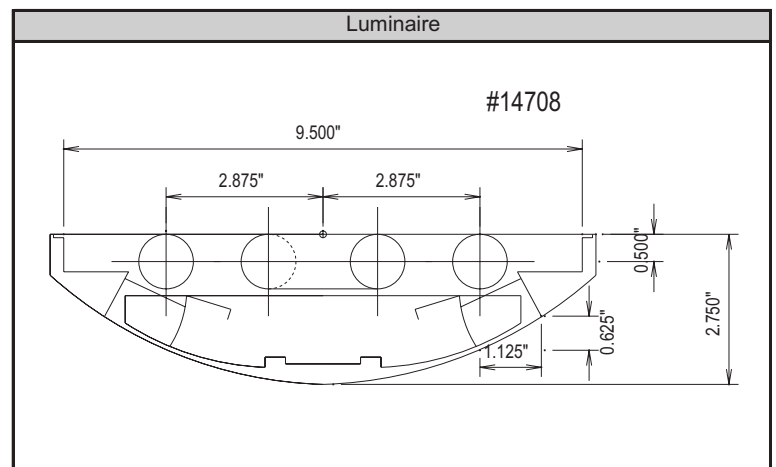
Zone	Lumens	% of Lamp	% of Luminaire
0-30	306.0	3.6%	4.5%
0-40	492.4	5.8%	7.3%
0-60	826.1	9.7%	12.3%
0-90	1000.7	11.7%	14.9%
90-180	5732.1	67.0%	85.1%
0-180	6732.8	78.7%	100.0%

Total luminaire efficiency: 78.7%

CIE Type: Semi-Indirect

Spacing Criterion: 0 deg: 1.10 90 deg: 1.29
180 deg: 1.10 270 deg: 1.29

Shielding angle: 0 deg: 31 90 deg: 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	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400	400
5	396	394	396	399	401	399	396	394	396	394	396	399	401	399	396	394
10	382	382	387	394	398	394	387	382	382	382	387	394	398	394	387	382
15	363	366	375	388	394	388	375	366	363	366	375	388	394	388	375	366
20	342	346	360	381	394	381	360	346	342	346	360	381	394	381	360	346
25	318	324	346	385	397	385	346	324	318	324	346	385	397	385	346	324
30	290	299	338	361	366	361	338	299	290	299	338	361	366	361	338	299
35	259	273	312	315	320	315	312	273	259	273	312	315	320	315	312	273
40	226	247	274	282	295	282	274	247	226	247	274	282	295	282	274	247
45	189	218	236	256	272	256	236	218	189	218	236	256	272	256	236	218
50	150	175	206	231	248	231	206	175	150	175	206	231	248	231	206	175
55	105	139	176	204	222	204	176	139	105	139	176	204	222	204	176	139
60	42	113	147	177	196	177	147	113	42	113	147	177	196	177	147	113
65	9	82	119	151	172	151	119	82	9	82	119	151	172	151	119	82
70	0	36	91	129	153	129	91	36	0	36	91	129	153	129	91	36
75	0	5	58	91	105	91	58	5	0	5	58	91	105	91	58	5
80	0	0	21	40	46	40	21	0	0	0	21	40	46	40	21	0
85	0	0	1	21	33	21	1	0	0	0	1	21	33	21	1	0
90	0	0	0	6	10	6	0	0	0	0	0	6	10	6	0	0
95	33	194	218	223	224	223	218	194	33	194	218	223	224	223	218	194
100	99	400	520	548	554	548	520	400	99	400	520	548	554	548	520	400
105	181	553	763	851	872	851	763	553	181	553	763	851	872	851	763	553
110	272	641	959	1084	1123	1084	959	641	272	641	959	1084	1123	1084	959	641
115	367	712	1115	1279	1327	1279	1115	712	367	712	1115	1279	1327	1279	1115	712
120	462	781	1203	1436	1493	1436	1203	781	462	781	1203	1436	1493	1436	1203	781
125	557	847	1246	1523	1608	1523	1246	847	557	847	1246	1523	1608	1523	1246	847
130	647	908	1271	1545	1640	1545	1271	908	647	908	1271	1545	1640	1545	1271	908
135	734	965	1283	1535	1628	1535	1283	965	734	965	1283	1535	1628	1535	1283	965
140	814	1016	1291	1510	1595	1510	1291	1016	814	1016	1291	1510	1595	1510	1291	1016
145	888	1060	1292	1478	1550	1478	1292	1060	888	1060	1292	1478	1550	1478	1292	1060
150	955	1095	1289	1441	1501	1441	1289	1095	955	1095	1289	1441	1501	1441	1289	1095
155	1013	1122	1277	1397	1444	1397	1277	1122	1013	1122	1277	1397	1444	1397	1277	1122
160	1062	1141	1258	1349	1385	1349	1258	1141	1062	1141	1258	1349	1385	1349	1258	1141
165	1101	1153	1232	1296	1321	1296	1232	1153	1101	1153	1232	1296	1321	1296	1232	1153
170	1130	1158	1200	1239	1255	1239	1200	1158	1130	1158	1200	1239	1255	1239	1200	1158
175	1149	1157	1171	1186	1193	1186	1171	1157	1149	1157	1171	1186	1193	1186	1171	1157
180	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155	1155

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	9.5	45-50	88.5	90-95	42.6	135-140	462.5
5-10	28.1	50-55	81.0	95-100	174.2	140-145	420.2
10-15	45.4	55-60	71.7	100-105	302.3	145-150	372.1
15-20	61.0	60-65	60.4	105-110	398.6	150-155	319.0
20-25	75.3	65-70	49.3	110-115	465.2	155-160	262.3
25-30	86.8	70-75	35.8	115-120	508.5	160-165	203.4
30-35	92.5	75-80	18.7	120-125	527.1	165-170	143.7
35-40	93.8	80-85	7.2	125-130	520.6	170-175	84.8
40-45	92.6	85-90	3.1	130-135	497.0	175-180	27.8



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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	0.879	0.879	0.879	0.879	0.778	0.778	0.778	0.778	0.682	0.682	0.682	0.682
1	0.802	0.763	0.728	0.697	0.709	0.677	0.648	0.622	0.62	0.594	0.571	0.55
2	0.731	0.665	0.611	0.566	0.645	0.591	0.546	0.508	0.564	0.519	0.482	0.451
3	0.667	0.584	0.52	0.469	0.588	0.519	0.465	0.422	0.513	0.456	0.412	0.376
4	0.61	0.514	0.446	0.394	0.537	0.458	0.4	0.355	0.469	0.403	0.355	0.317
5	0.558	0.456	0.386	0.335	0.492	0.406	0.346	0.302	0.429	0.358	0.308	0.27
6	0.512	0.406	0.337	0.287	0.451	0.362	0.303	0.26	0.394	0.32	0.269	0.233
7	0.472	0.364	0.296	0.249	0.416	0.325	0.267	0.226	0.363	0.288	0.238	0.202
8	0.436	0.328	0.262	0.218	0.385	0.294	0.236	0.197	0.336	0.26	0.211	0.177
9	0.404	0.298	0.234	0.191	0.357	0.266	0.211	0.174	0.312	0.236	0.189	0.156
10	0.376	0.271	0.21	0.169	0.332	0.243	0.189	0.154	0.291	0.215	0.169	0.138

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	0.502	0.502	0.502	0.502	0.338	0.338	0.338	0.188	0.188	0.188	0.117
1	0.456	0.439	0.425	0.411	0.297	0.289	0.281	0.166	0.163	0.159	0.1
2	0.413	0.385	0.361	0.34	0.261	0.247	0.235	0.147	0.14	0.134	0.084
3	0.376	0.339	0.31	0.286	0.231	0.213	0.199	0.13	0.122	0.115	0.072
4	0.343	0.3	0.268	0.242	0.205	0.185	0.169	0.116	0.107	0.099	0.062
5	0.314	0.268	0.233	0.207	0.183	0.162	0.146	0.104	0.094	0.086	0.054
6	0.289	0.24	0.205	0.179	0.165	0.143	0.127	0.094	0.083	0.075	0.047
7	0.267	0.216	0.181	0.156	0.149	0.127	0.111	0.086	0.075	0.066	0.042
8	0.247	0.196	0.162	0.137	0.135	0.114	0.098	0.079	0.067	0.059	0.038
9	0.23	0.178	0.145	0.121	0.124	0.102	0.087	0.072	0.061	0.053	0.034
10	0.214	0.163	0.13	0.108	0.113	0.092	0.078	0.067	0.056	0.048	0.031

Average Luminance Table (cd/m²)

	0	45	90
0	2184	2184	2184
45	1460	1937	2096
55	997	1731	2099
65	119	1517	2070
75	0	1095	1806
85	0	50	1060

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.

