



# LUMINAIRE TESTING LABORATORY, INC.

SUSTAINING MEMBER  
of the  
IESNA

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LTL NUMBER: 14711 DATE: 02-27-2009  
 PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING  
 CATALOG NUMBER: LM3S-03-X-4-X-PBW-X-120-T8  
 LUMINAIRE: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM CENTER REFLECTOR, 48 CELL, 3/4" DEEP, FORMED WHITE ENAMEL 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, 0.7123A, 85.32W

### Candela Distribution

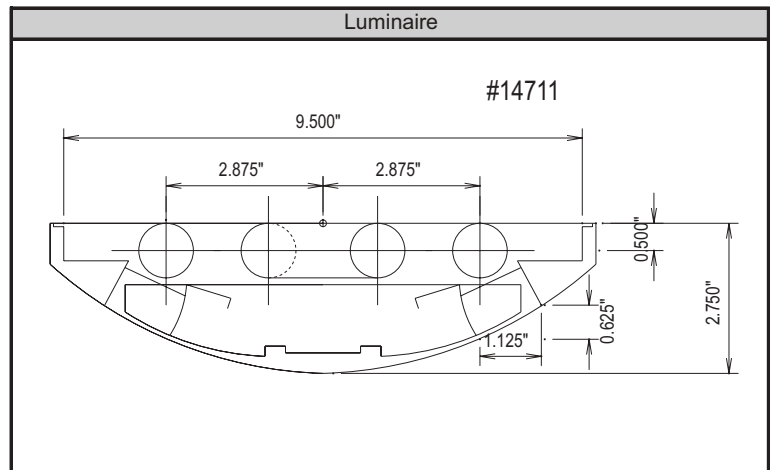
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	346	346	346	346	346	346	346	346	346	346	346	346	346	346	346	346	
5	341	341	343	346	348	346	343	341	341	341	343	346	348	346	343	341	32.6
15	310	316	330	349	357	349	330	316	310	316	330	349	357	349	330	316	94.2
25	270	283	323	372	389	372	323	283	270	283	323	372	389	372	323	283	150.4
35	223	245	302	334	349	334	302	245	223	245	302	334	349	334	302	245	182.1
45	169	207	241	251	263	251	241	207	169	207	241	251	263	251	241	207	176.0
55	110	146	161	163	171	163	161	146	110	146	161	163	171	163	161	146	136.5
65	59	79	90	96	106	96	90	79	59	79	90	96	106	96	90	79	87.8
75	27	28	51	70	79	70	51	28	27	28	51	70	79	70	51	28	53.1
85	0	9	25	36	42	36	25	9	0	9	25	36	42	36	25	9	27.0
90	0	7	28	45	52	45	28	7	0	7	28	45	52	45	28	7	
95	46	205	241	263	270	263	241	205	46	205	241	263	270	263	241	205	245.1
105	246	596	785	856	874	856	785	596	246	596	785	856	874	856	785	596	729.0
115	485	778	1141	1293	1337	1293	1141	778	485	778	1141	1293	1337	1293	1141	778	1016.7
125	718	950	1300	1541	1612	1541	1300	950	718	950	1300	1541	1612	1541	1300	950	1105.6
135	929	1107	1369	1588	1670	1588	1369	1107	929	1107	1369	1588	1670	1588	1369	1107	1036.4
145	1110	1237	1426	1578	1637	1578	1426	1237	1110	1237	1426	1578	1637	1578	1426	1237	880.3
155	1256	1332	1451	1547	1585	1547	1451	1332	1256	1332	1451	1547	1585	1547	1451	1332	664.8
165	1357	1390	1446	1494	1514	1494	1446	1390	1357	1390	1446	1494	1514	1494	1446	1390	408.5
175	1410	1412	1421	1432	1437	1432	1421	1412	1410	1412	1421	1432	1437	1432	1421	1412	136.1
180	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	

### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	277.2	3.2%	3.9%
0-40	459.4	5.4%	6.4%
0-60	771.8	9.0%	10.8%
0-90	939.8	11.0%	13.1%
90-180	6222.7	72.8%	86.9%
0-180	7162.5	83.8%	100.0%

Total luminaire efficiency: 83.8%

CIE Type: Semi-Indirect  
 Spacing Criterion: 0 deg: 1.08 90 deg: 1.49  
 180 deg: 1.08 270 deg: 1.49  
 Shielding angle: 0 deg: 31 90 deg: 26



Approved By: MG

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



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	346	346	346	346	346	346	346	346	346	346	346	346	346	346	346	346
5	341	341	343	346	348	346	343	341	341	341	343	346	348	346	343	341
10	327	330	337	346	351	346	337	330	327	330	337	346	351	346	337	330
15	310	316	330	349	357	349	330	316	310	316	330	349	357	349	330	316
20	291	300	323	361	381	361	323	300	291	300	323	361	381	361	323	300
25	270	283	323	372	389	372	323	283	270	283	323	372	389	372	323	283
30	247	264	322	360	379	360	322	264	247	264	322	360	379	360	322	264
35	223	245	302	334	349	334	302	245	223	245	302	334	349	334	302	245
40	197	227	277	295	309	295	277	227	197	227	277	295	309	295	277	227
45	169	207	241	251	263	251	241	207	169	207	241	251	263	251	241	207
50	141	177	202	206	216	206	202	177	141	177	202	206	216	206	202	177
55	110	146	161	163	171	163	161	146	110	146	161	163	171	163	161	146
60	78	113	123	126	133	126	123	113	78	113	123	126	133	126	123	113
65	59	79	90	96	106	96	90	79	59	79	90	96	106	96	90	79
70	42	47	66	85	96	85	66	47	42	47	66	85	96	85	66	47
75	27	28	51	70	79	70	51	28	27	28	51	70	79	70	51	28
80	12	18	37	50	56	50	37	18	12	18	37	50	56	50	37	18
85	0	9	25	36	42	36	25	9	0	9	25	36	42	36	25	9
90	0	7	28	45	52	45	28	7	0	7	28	45	52	45	28	7
95	46	205	241	263	270	263	241	205	46	205	241	263	270	263	241	205
100	136	430	529	558	566	558	529	430	136	430	529	558	566	558	529	430
105	246	596	785	856	874	856	785	596	246	596	785	856	874	856	785	596
110	365	698	986	1102	1133	1102	986	698	365	698	986	1102	1133	1102	986	698
115	485	778	1141	1293	1337	1293	1141	778	485	778	1141	1293	1337	1293	1141	778
120	604	863	1243	1442	1495	1442	1243	863	604	863	1243	1442	1495	1442	1243	863
125	718	950	1300	1541	1612	1541	1300	950	718	950	1300	1541	1612	1541	1300	950
130	827	1031	1336	1582	1665	1582	1336	1031	827	1031	1336	1582	1665	1582	1336	1031
135	929	1107	1369	1588	1670	1588	1369	1107	929	1107	1369	1588	1670	1588	1369	1107
140	1024	1175	1401	1582	1654	1582	1401	1175	1024	1175	1401	1582	1654	1582	1401	1175
145	1110	1237	1426	1578	1637	1578	1426	1237	1110	1237	1426	1578	1637	1578	1426	1237
150	1188	1289	1443	1568	1617	1568	1443	1289	1188	1289	1443	1568	1617	1568	1443	1289
155	1256	1332	1451	1547	1585	1547	1451	1332	1256	1332	1451	1547	1585	1547	1451	1332
160	1312	1366	1452	1523	1553	1523	1452	1366	1312	1366	1452	1523	1553	1523	1452	1366
165	1357	1390	1446	1494	1514	1494	1446	1390	1357	1390	1446	1494	1514	1494	1446	1390
170	1389	1406	1435	1463	1475	1463	1435	1406	1389	1406	1435	1463	1475	1463	1435	1406
175	1410	1412	1421	1432	1437	1432	1421	1412	1410	1412	1421	1432	1437	1432	1421	1412
180	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414	1414

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	8.2	45-50	84.8	90-95	59.8	135-140	502.8
5-10	24.4	50-55	74.5	95-100	185.3	140-145	463.6
10-15	39.7	55-60	62.0	100-105	313.6	145-150	416.7
15-20	54.5	60-65	49.1	105-110	415.4	150-155	362.5
20-25	69.1	65-70	38.7	110-115	486.0	155-160	302.3
25-30	81.3	70-75	30.5	115-120	530.8	160-165	237.8
30-35	89.5	75-80	22.6	120-125	553.1	165-170	170.6
35-40	92.7	80-85	15.3	125-130	552.5	170-175	102.2
40-45	91.1	85-90	11.7	130-135	533.7	175-180	33.9



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	0.933	0.933	0.933	0.933	0.824	0.824	0.824	0.824	0.72	0.72	0.72	0.72
1	0.851	0.809	0.772	0.739	0.75	0.716	0.685	0.657	0.654	0.626	0.601	0.579
2	0.776	0.705	0.648	0.6	0.683	0.625	0.577	0.536	0.594	0.547	0.508	0.474
3	0.708	0.619	0.551	0.497	0.622	0.548	0.491	0.446	0.541	0.481	0.434	0.396
4	0.647	0.545	0.472	0.417	0.568	0.484	0.422	0.375	0.494	0.425	0.374	0.334
5	0.592	0.483	0.408	0.354	0.52	0.429	0.366	0.319	0.452	0.377	0.324	0.284
6	0.543	0.43	0.356	0.304	0.477	0.383	0.32	0.274	0.415	0.337	0.284	0.245
7	0.5	0.386	0.313	0.263	0.44	0.344	0.281	0.238	0.383	0.303	0.25	0.212
8	0.462	0.348	0.277	0.23	0.406	0.31	0.249	0.208	0.354	0.273	0.222	0.186
9	0.428	0.315	0.247	0.202	0.377	0.281	0.222	0.183	0.329	0.248	0.198	0.164
10	0.398	0.286	0.221	0.178	0.351	0.256	0.199	0.162	0.306	0.226	0.178	0.145

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	0.526	0.526	0.526	0.526	0.349	0.349	0.349	0.186	0.186	0.186	0.11
1	0.476	0.459	0.443	0.429	0.306	0.297	0.289	0.164	0.16	0.156	0.092
2	0.432	0.402	0.377	0.355	0.268	0.254	0.241	0.145	0.138	0.132	0.078
3	0.393	0.354	0.323	0.298	0.237	0.219	0.204	0.128	0.12	0.113	0.066
4	0.358	0.314	0.28	0.253	0.211	0.19	0.174	0.115	0.105	0.097	0.057
5	0.328	0.279	0.243	0.216	0.188	0.166	0.149	0.103	0.092	0.084	0.05
6	0.302	0.25	0.214	0.186	0.169	0.147	0.129	0.093	0.082	0.074	0.044
7	0.278	0.225	0.189	0.162	0.153	0.13	0.113	0.084	0.073	0.065	0.039
8	0.258	0.204	0.168	0.142	0.139	0.116	0.1	0.077	0.066	0.058	0.035
9	0.24	0.186	0.15	0.126	0.127	0.104	0.088	0.071	0.06	0.052	0.031
10	0.224	0.17	0.135	0.112	0.116	0.094	0.079	0.065	0.054	0.046	0.028

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

	0	45	90
0	1889	1889	1889
45	1304	1981	2028
55	1044	1585	1610
65	761	1142	1267
75	565	966	1354
85	0	940	1337

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.

