



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: 21369 DATE: 11/11/2010
 PREPARED FOR: RENOVA LIGHTING
 CATALOG NUMBER: ECS-SVT4-WN-232-UNV-12L-CAL
 LUMINAIRE: MOLDED PLASTIC AND FORMED STEEL HOUSING, FORMED WHITE
 PAINTED ALUMINUM REFLECTOR, CLEAR PATTERNED ACRYLIC
 ENCLOSURE.
 LAMP: TWO 32W T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS EACH.
 LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO
 BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE2X32T8/UNV-ISL-SC
 MOUNTING: PENDANT
 ELECTRICAL VALUES: 120.0VAC, 0.4005A, 47.98W

Candela Distribution

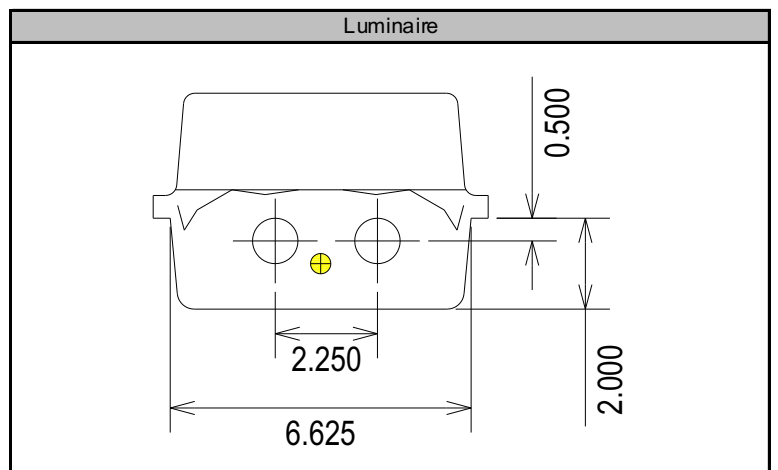
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	
5	1283	1285	1289	1284	1287	1284	1289	1285	1283	1285	1289	1284	1287	1284	1289	1285	122.2
15	1240	1242	1251	1251	1257	1251	1251	1242	1240	1242	1251	1251	1257	1251	1251	1242	352.6
25	1152	1157	1182	1205	1219	1205	1182	1157	1152	1157	1182	1205	1219	1205	1182	1157	545.6
35	1018	1032	1088	1126	1143	1126	1088	1032	1018	1032	1088	1126	1143	1126	1088	1032	676.5
45	836	868	938	994	1019	994	938	868	836	868	938	994	1019	994	938	868	718.8
55	612	659	757	841	874	841	757	659	612	659	757	841	874	841	757	659	671.9
65	385	451	588	701	744	701	588	451	385	451	588	701	744	701	588	451	572.5
75	197	284	459	589	631	589	459	284	197	284	459	589	631	589	459	284	461.7
85	57	162	327	428	459	428	327	162	57	162	327	428	459	428	327	162	321.5
90	23	114	246	340	371	340	246	114	23	114	246	340	371	340	246	114	
95	26	84	194	282	311	282	194	84	26	84	194	282	311	282	194	84	198.9
105	18	48	109	159	179	159	109	48	18	48	109	159	179	159	109	48	110.9
115	8	24	60	74	78	74	60	24	8	24	60	74	78	74	60	24	51.3
125	3	9	28	38	40	38	28	9	3	9	28	38	40	38	28	9	22.5
135	2	2	13	20	21	20	13	2	2	2	13	20	21	20	13	2	9.0
145	0	0	5	10	11	10	5	0	0	0	5	10	11	10	5	0	3.1
155	0	0	0	3	4	3	0	0	0	0	0	3	4	3	0	0	0.5
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	1020.5	17.9%	21.1%
0-40	1697.0	29.8%	35.1%
0-60	3087.7	54.2%	63.8%
0-90	4443.4	78.0%	91.8%
90-180	396.3	7.0%	8.2%
0-180	4839.7	84.9%	100.0%

Total luminaire efficiency: 84.9%

CIE Type: Direct
 Spacing Criterion: 0 deg: 1.25 90 deg: 1.37
 180 deg: 1.25 270 deg: 1.37



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	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292	1292
5	1283	1285	1289	1284	1287	1284	1289	1285	1283	1285	1289	1284	1287	1284	1289	1285
10	1267	1269	1273	1270	1274	1270	1273	1269	1267	1269	1273	1270	1274	1270	1273	1269
15	1240	1242	1251	1251	1257	1251	1251	1242	1240	1242	1251	1251	1257	1251	1251	1242
20	1201	1205	1219	1229	1240	1229	1219	1205	1201	1205	1219	1229	1240	1229	1219	1205
25	1152	1157	1182	1205	1219	1205	1182	1157	1152	1157	1182	1205	1219	1205	1182	1157
30	1090	1101	1141	1173	1188	1173	1141	1101	1090	1101	1141	1173	1188	1173	1141	1101
35	1018	1032	1088	1126	1143	1126	1088	1032	1018	1032	1088	1126	1143	1126	1088	1032
40	933	955	1020	1064	1085	1064	1020	955	933	955	1020	1064	1085	1064	1020	955
45	836	868	938	994	1019	994	938	868	836	868	938	994	1019	994	938	868
50	728	768	849	919	949	919	849	768	728	768	849	919	949	919	849	768
55	612	659	757	841	874	841	757	659	612	659	757	841	874	841	757	659
60	496	551	669	765	804	765	669	551	496	551	669	765	804	765	669	551
65	385	451	588	701	744	701	588	451	385	451	588	701	744	701	588	451
70	284	363	518	643	687	643	518	363	284	363	518	643	687	643	518	363
75	197	284	459	589	631	589	459	284	197	284	459	589	631	589	459	284
80	122	220	405	523	558	523	405	220	122	220	405	523	558	523	405	220
85	57	162	327	428	459	428	327	162	57	162	327	428	459	428	327	162
90	23	114	246	340	371	340	246	114	23	114	246	340	371	340	246	114
95	26	84	194	282	311	282	194	84	26	84	194	282	311	282	194	84
100	23	63	149	220	247	220	149	63	23	63	149	220	247	220	149	63
105	18	48	109	159	179	159	109	48	18	48	109	159	179	159	109	48
110	12	35	80	107	119	107	80	35	12	35	80	107	119	107	80	35
115	8	24	60	74	78	74	60	24	8	24	60	74	78	74	60	24
120	4	15	42	54	56	54	42	15	4	15	42	54	56	54	42	15
125	3	9	28	38	40	38	28	9	3	9	28	38	40	38	28	9
130	2	5	19	27	29	27	19	5	2	5	19	27	29	27	19	5
135	2	2	13	20	21	20	13	2	2	2	13	20	21	20	13	2
140	0	0	8	13	15	13	8	0	0	0	8	13	15	13	8	0
145	0	0	5	10	11	10	5	0	0	0	5	10	11	10	5	0
150	0	0	2	6	7	6	2	0	0	0	2	6	7	6	2	0
155	0	0	0	3	4	3	0	0	0	0	0	3	4	3	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Zonal Lumen Tabulation (5 degree zones)

Zone	Lumens	Zone	Lumens	Zone	Lumens	Zone	Lumens
0-5	30.8	45-50	358.7	90-95	110.9	135-140	3.4
5-10	91.4	50-55	346.7	95-100	88.0	140-145	2.0
10-15	149.4	55-60	325.2	100-105	65.3	145-150	1.1
15-20	203.2	60-65	299.7	105-110	45.5	150-155	0.4
20-25	251.8	65-70	272.7	110-115	30.6	155-160	0.1
25-30	293.8	70-75	245.0	115-120	20.7	160-165	0.0
30-35	327.1	75-80	216.7	120-125	13.7	165-170	0.0
35-40	349.5	80-85	181.4	125-130	8.7	170-175	0.0
40-45	360.1	85-90	140.2	130-135	5.6	175-180	0.0



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	1.027	1.027	1.027	1.027	0.994	0.994	0.994	0.994	0.963	0.963	0.963	0.963
1	0.919	0.865	0.816	0.772	0.886	0.837	0.793	0.753	0.855	0.81	0.77	0.734
2	0.83	0.742	0.671	0.611	0.798	0.719	0.653	0.598	0.768	0.696	0.636	0.585
3	0.753	0.646	0.563	0.498	0.724	0.626	0.55	0.489	0.696	0.607	0.537	0.48
4	0.688	0.568	0.482	0.417	0.66	0.551	0.471	0.41	0.634	0.535	0.46	0.403
5	0.631	0.505	0.418	0.355	0.606	0.49	0.409	0.35	0.582	0.476	0.401	0.345
6	0.581	0.452	0.367	0.307	0.558	0.44	0.36	0.303	0.537	0.428	0.353	0.299
7	0.537	0.408	0.326	0.27	0.517	0.398	0.32	0.266	0.497	0.387	0.314	0.263
8	0.499	0.371	0.292	0.239	0.48	0.362	0.287	0.236	0.463	0.353	0.282	0.233
9	0.465	0.34	0.264	0.214	0.448	0.331	0.26	0.211	0.432	0.323	0.255	0.209
10	0.435	0.312	0.24	0.193	0.42	0.305	0.236	0.191	0.405	0.298	0.233	0.189

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	0.905	0.905	0.905	0.905	0.851	0.851	0.851	0.803	0.803	0.803	0.78
1	0.797	0.761	0.728	0.698	0.715	0.688	0.664	0.673	0.652	0.632	0.608
2	0.713	0.654	0.604	0.561	0.615	0.574	0.537	0.579	0.545	0.515	0.492
3	0.644	0.571	0.511	0.462	0.537	0.487	0.445	0.506	0.465	0.429	0.406
4	0.587	0.504	0.44	0.39	0.475	0.421	0.377	0.449	0.403	0.364	0.342
5	0.539	0.45	0.384	0.334	0.425	0.369	0.324	0.402	0.354	0.314	0.293
6	0.498	0.405	0.34	0.291	0.384	0.326	0.283	0.364	0.314	0.275	0.255
7	0.462	0.367	0.303	0.256	0.349	0.292	0.249	0.332	0.281	0.243	0.224
8	0.431	0.336	0.273	0.227	0.32	0.263	0.222	0.304	0.254	0.216	0.199
9	0.403	0.308	0.247	0.204	0.294	0.239	0.199	0.281	0.231	0.195	0.178
10	0.379	0.285	0.225	0.185	0.272	0.218	0.18	0.26	0.212	0.176	0.161

Average Luminance Table (cd/m²)

	0	45	90
0	6105	6105	6105
45	5401	5243	5435
55	4799	4828	5239
65	3990	4518	5272
75	3159	4620	5681
85	2192	4983	5919

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.

