



# 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: 21367

DATE: 11/11/2010

PREPARED FOR: RENOVA LIGHTING

CATALOG NUMBER: ECS-SVT4-WN-132-UNV-11L-CAL

LUMINAIRE: MOLDED PLASTIC AND FORMED STEEL HOUSING, FORMED WHITE PAINTED ALUMINUM REFLECTOR, CLEAR PATTERNED ACRYLIC ENCLOSURE.

LAMP: ONE 32W T8 LINEAR FLUORESCENT LAMP RATED AT 2850 LUMENS.

LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO

BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE1X32T8/UNV-ISL-SC

MOUNTING: PENDANT

ELECTRICAL VALUES: 120.0VAC, 0.2116A, 25.36W

### 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	643	643	643	643	643	643	643	643	643	643	643	643	643	643	643	643	
5	637	639	643	641	643	641	643	639	637	639	643	641	643	641	643	639	61.0
15	616	621	631	634	638	634	631	621	616	621	631	634	638	634	631	621	177.5
25	572	583	602	614	621	614	602	583	572	583	602	614	621	614	602	583	276.1
35	506	524	555	574	585	574	555	524	506	524	555	574	585	574	555	524	343.8
45	415	443	480	514	529	514	480	443	415	443	480	514	529	514	480	443	368.0
55	305	336	387	433	455	433	387	336	305	336	387	433	455	433	387	336	344.2
65	194	226	301	386	417	386	301	226	194	226	301	386	417	386	301	226	303.5
75	101	144	276	368	395	368	276	144	101	144	276	368	395	368	276	144	273.4
85	30	102	228	316	345	316	228	102	30	102	228	316	345	316	228	102	225.7
90	12	77	186	273	302	273	186	77	12	77	186	273	302	273	186	77	
95	14	53	131	203	230	203	131	53	14	53	131	203	230	203	131	53	137.5
105	10	25	45	54	62	54	45	25	10	25	45	54	62	54	45	25	46.8
115	4	14	32	32	30	32	32	14	4	14	32	32	30	32	32	14	23.6
125	2	5	17	24	24	24	17	5	2	5	17	24	24	24	17	5	13.3
135	0	1	7	11	13	11	7	1	0	1	7	11	13	11	7	1	5.2
145	0	0	2	5	5	5	2	0	0	0	2	5	5	5	2	0	1.7
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
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	0

### Zonal Lumen Summary

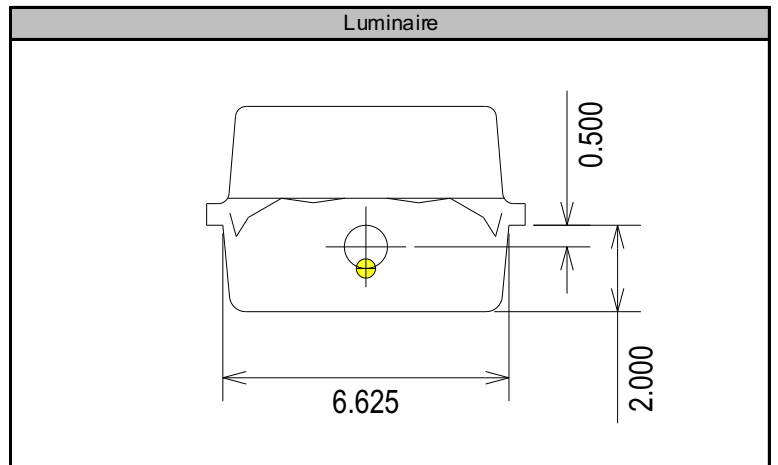
Zone	Lumens	% of Lamp	% of Luminaire
0-30	514.7	18.1%	19.8%
0-40	858.4	30.1%	33.0%
0-60	1570.6	55.1%	60.4%
0-90	2373.1	83.3%	91.2%
90-180	228.3	8.0%	8.8%
0-180	2601.5	91.3%	100.0%

Total luminaire efficiency: 91.3%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.25 90 deg: 1.40  
180 deg: 1.25 270 deg: 1.40

Total reflectance of paint: 90.8



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	643	643	643	643	643	643	643	643	643	643	643	643	643	643	643	643
5	637	639	643	641	643	641	643	639	637	639	643	641	643	641	643	639
10	629	632	638	638	642	638	638	632	629	632	638	638	642	638	638	632
15	616	621	631	634	638	634	631	621	616	621	631	634	638	634	631	621
20	597	605	618	625	632	625	618	605	597	605	618	625	632	625	618	605
25	572	583	602	614	621	614	602	583	572	583	602	614	621	614	602	583
30	542	556	581	596	605	596	581	556	542	556	581	596	605	596	581	556
35	506	524	555	574	585	574	555	524	506	524	555	574	585	574	555	524
40	464	486	520	547	560	547	520	486	464	486	520	547	560	547	520	486
45	415	443	480	514	529	514	480	443	415	443	480	514	529	514	480	443
50	363	392	436	475	492	475	436	392	363	392	436	475	492	475	436	392
55	305	336	387	433	455	433	387	336	305	336	387	433	455	433	387	336
60	248	278	338	401	429	401	338	278	248	278	338	401	429	401	338	278
65	194	226	301	386	417	386	301	226	194	226	301	386	417	386	301	226
70	144	180	284	379	410	379	284	180	144	180	284	379	410	379	284	180
75	101	144	276	368	395	368	276	144	101	144	276	368	395	368	276	144
80	64	123	261	344	370	344	261	123	64	123	261	344	370	344	261	123
85	30	102	228	316	345	316	228	102	30	102	228	316	345	316	228	102
90	12	77	186	273	302	273	186	77	12	77	186	273	302	273	186	77
95	14	53	131	203	230	203	131	53	14	53	131	203	230	203	131	53
100	13	33	73	117	138	117	73	33	13	33	73	117	138	117	73	33
105	10	25	45	54	62	54	45	25	10	25	45	54	62	54	45	25
110	7	20	37	35	33	35	37	20	7	20	37	35	33	35	37	20
115	4	14	32	32	30	32	32	14	4	14	32	32	30	32	32	14
120	3	9	25	29	28	29	25	9	3	9	25	29	28	29	25	9
125	2	5	17	24	24	24	17	5	2	5	17	24	24	24	17	5
130	1	3	11	17	19	17	11	3	1	3	11	17	19	17	11	3
135	0	1	7	11	13	11	7	1	0	1	7	11	13	11	7	1
140	0	0	4	7	8	7	4	0	0	0	4	7	8	7	4	0
145	0	0	2	5	5	5	2	0	0	0	2	5	5	5	2	0
150	0	0	1	3	3	3	1	0	0	0	1	3	3	3	1	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	15.3	45-50	183.8	90-95	83.0	135-140	1.9
5-10	45.7	50-55	177.5	95-100	54.6	140-145	1.1
10-15	75.0	55-60	166.7	100-105	29.7	145-150	0.6
15-20	102.5	60-65	155.9	105-110	17.0	150-155	0.1
20-25	127.4	65-70	147.6	110-115	13.0	155-160	0.0
25-30	148.8	70-75	140.7	115-120	10.6	160-165	0.0
30-35	165.9	75-80	132.7	120-125	8.0	165-170	0.0
35-40	177.9	80-85	121.0	125-130	5.3	170-175	0.0
40-45	184.1	85-90	104.7	130-135	3.3	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	1.103	1.103	1.103	1.103	1.068	1.068	1.068	1.068	1.033	1.033	1.033	1.033
1	0.979	0.917	0.861	0.811	0.943	0.886	0.835	0.79	0.908	0.857	0.811	0.769
2	0.882	0.784	0.703	0.636	0.847	0.758	0.684	0.622	0.814	0.733	0.665	0.608
3	0.8	0.68	0.589	0.517	0.767	0.658	0.574	0.507	0.736	0.637	0.559	0.497
4	0.729	0.597	0.503	0.431	0.699	0.579	0.491	0.423	0.671	0.561	0.479	0.416
5	0.669	0.53	0.436	0.367	0.641	0.514	0.426	0.361	0.615	0.499	0.417	0.355
6	0.616	0.475	0.382	0.317	0.591	0.461	0.375	0.312	0.567	0.448	0.367	0.308
7	0.569	0.429	0.339	0.278	0.547	0.417	0.333	0.274	0.526	0.406	0.326	0.27
8	0.529	0.39	0.304	0.246	0.508	0.379	0.298	0.243	0.489	0.369	0.293	0.239
9	0.493	0.356	0.274	0.22	0.474	0.347	0.27	0.217	0.457	0.339	0.265	0.214
10	0.461	0.328	0.25	0.198	0.444	0.32	0.245	0.196	0.428	0.312	0.241	0.193

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	0.97	0.97	0.97	0.97	0.911	0.911	0.911	0.858	0.858	0.858	0.833
1	0.844	0.802	0.764	0.729	0.752	0.721	0.692	0.705	0.681	0.658	0.631
2	0.752	0.686	0.63	0.581	0.643	0.597	0.556	0.604	0.565	0.531	0.505
3	0.679	0.597	0.531	0.477	0.56	0.505	0.458	0.526	0.48	0.44	0.415
4	0.618	0.527	0.457	0.401	0.495	0.435	0.387	0.466	0.415	0.373	0.349
5	0.567	0.47	0.398	0.343	0.443	0.381	0.332	0.418	0.364	0.321	0.298
6	0.524	0.423	0.352	0.298	0.4	0.337	0.289	0.378	0.323	0.28	0.259
7	0.486	0.384	0.313	0.262	0.363	0.301	0.255	0.344	0.289	0.247	0.227
8	0.454	0.35	0.282	0.233	0.333	0.271	0.227	0.316	0.261	0.221	0.201
9	0.425	0.322	0.256	0.209	0.306	0.246	0.204	0.292	0.238	0.198	0.18
10	0.399	0.297	0.233	0.189	0.284	0.225	0.184	0.27	0.218	0.18	0.163

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

	0	45	90
0	3038	3038	3038
45	2684	2685	2822
55	2392	2466	2726
65	2008	2315	2953
75	1617	2776	3556
85	1140	3481	4448

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.

