



# 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: 19583

DATE: 06-09-2010

PREPARED FOR: RENOVA LIGHTING SYSTEMS

CATALOG NUMBER: ECS-KCN2-WN-217-UNV-12L-FRL

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL ALUMINUM REFLECTOR, FORMED WHITE ENAMEL ALUMINUM ENCLOSURE WITH FROSTED LINEAR PRISMATIC PLASTIC DIFFUSERS BELOW EACH LAMP.

LAMP: TWO 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1350 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8-SP41-ECO

BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE2X32T8/UNV-ISL-SC

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.2150A, 25.59W

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	814	814	814	814	814	814	814	814	814	814	814	814	814	814	814	814	
5	810	810	811	811	811	811	811	810	810	810	811	811	811	811	811	810	77.0
15	774	777	782	788	789	788	782	777	774	777	782	788	789	788	782	777	220.6
25	701	708	723	737	741	737	723	708	701	708	723	737	741	737	723	708	332.9
35	597	611	637	661	669	661	637	611	597	611	637	661	669	661	637	611	397.2
45	468	488	526	554	565	554	526	488	468	488	526	554	565	554	526	488	401.2
55	327	352	393	421	430	421	393	352	327	352	393	421	430	421	393	352	344.8
65	198	221	258	263	255	263	258	221	198	221	258	263	255	263	258	221	239.7
75	93	110	119	107	102	107	119	110	93	110	119	107	102	107	119	110	116.3
85	20	22	22	21	20	21	22	22	20	22	22	21	20	21	22	22	25.8
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0
155	0	0	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	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

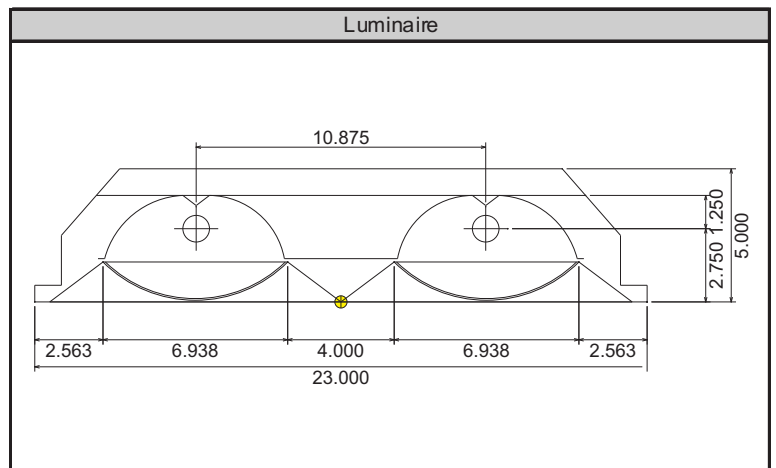
Zone	Lumens	% of Lamp	% of Luminaire
0-30	630.6	23.4%	29.3%
0-40	1027.7	38.1%	47.7%
0-60	1773.7	65.7%	82.3%
0-90	2155.6	79.8%	100.0%
90-180	0.0	0.0%	0.0%
0-180	2155.6	79.8%	100.0%

Total luminaire efficiency: 79.8%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.20 90 deg: 1.29  
180 deg: 1.20 270 deg: 1.29

Total reflectance of paint: 91.4



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	814	814	814	814	814	814	814	814	814	814	814	814	814	814	814	814
5	810	810	811	811	811	811	811	810	810	810	811	811	811	811	811	810
10	796	798	800	802	803	802	800	798	796	798	800	802	803	802	800	798
15	774	777	782	788	789	788	782	777	774	777	782	788	789	788	782	777
20	742	746	756	766	768	766	756	746	742	746	756	766	768	766	756	746
25	701	708	723	737	741	737	723	708	701	708	723	737	741	737	723	708
30	653	664	684	703	709	703	684	664	653	664	684	703	709	703	684	664
35	597	611	637	661	669	661	637	611	597	611	637	661	669	661	637	611
40	535	552	584	611	620	611	584	552	535	552	584	611	620	611	584	552
45	468	488	526	554	565	554	526	488	468	488	526	554	565	554	526	488
50	397	421	461	490	500	490	461	421	397	421	461	490	500	490	461	421
55	327	352	393	421	430	421	393	352	327	352	393	421	430	421	393	352
60	260	284	325	348	350	348	325	284	260	284	325	348	350	348	325	284
65	198	221	258	263	255	263	258	221	198	221	258	263	255	263	258	221
70	142	162	187	177	169	177	187	162	142	162	187	177	169	177	187	162
75	93	110	119	107	102	107	119	110	93	110	119	107	102	107	119	110
80	51	62	64	57	54	57	64	62	51	62	64	57	54	57	64	62
85	20	22	22	21	20	21	22	22	20	22	22	21	20	21	22	22
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	19.4	45-50	197.1	90-95	0.0	135-140	0.0
5-10	57.6	50-55	182.8	95-100	0.0	140-145	0.0
10-15	93.8	55-60	161.9	100-105	0.0	145-150	0.0
15-20	126.8	60-65	135.5	105-110	0.0	150-155	0.0
20-25	155.1	65-70	104.2	110-115	0.0	155-160	0.0
25-30	177.8	70-75	72.2	115-120	0.0	160-165	0.0
30-35	194.1	75-80	44.1	120-125	0.0	165-170	0.0
35-40	203.0	80-85	21.1	125-130	0.0	170-175	0.0
40-45	204.1	85-90	4.7	130-135	0.0	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	0.974	0.974	0.974	0.974	0.95	0.95	0.95	0.95	0.928	0.928	0.928	0.928
1	0.896	0.856	0.821	0.789	0.873	0.837	0.805	0.776	0.852	0.819	0.79	0.763
2	0.819	0.75	0.693	0.646	0.797	0.734	0.682	0.638	0.776	0.719	0.671	0.63
3	0.749	0.66	0.592	0.539	0.729	0.647	0.584	0.534	0.709	0.635	0.576	0.529
4	0.687	0.586	0.513	0.458	0.668	0.575	0.507	0.455	0.65	0.564	0.501	0.451
5	0.633	0.524	0.449	0.395	0.615	0.515	0.445	0.393	0.599	0.506	0.44	0.391
6	0.585	0.472	0.398	0.345	0.569	0.464	0.394	0.344	0.553	0.457	0.39	0.342
7	0.542	0.428	0.355	0.305	0.527	0.421	0.352	0.304	0.514	0.415	0.349	0.303
8	0.504	0.39	0.32	0.273	0.491	0.385	0.318	0.272	0.479	0.379	0.315	0.271
9	0.471	0.358	0.291	0.245	0.459	0.353	0.289	0.245	0.448	0.349	0.287	0.244
10	0.441	0.33	0.265	0.223	0.431	0.326	0.264	0.222	0.42	0.322	0.262	0.222

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	0.887	0.887	0.887	0.887	0.849	0.849	0.849	0.815	0.815	0.815	0.798
1	0.812	0.786	0.761	0.739	0.754	0.735	0.717	0.726	0.71	0.695	0.679
2	0.738	0.691	0.651	0.616	0.665	0.631	0.602	0.641	0.613	0.588	0.571
3	0.673	0.611	0.561	0.52	0.589	0.547	0.511	0.569	0.533	0.502	0.485
4	0.617	0.545	0.489	0.445	0.526	0.478	0.439	0.509	0.468	0.433	0.416
5	0.568	0.489	0.431	0.386	0.473	0.422	0.382	0.459	0.414	0.378	0.361
6	0.526	0.442	0.383	0.339	0.429	0.376	0.336	0.416	0.37	0.333	0.317
7	0.488	0.403	0.344	0.301	0.391	0.338	0.299	0.38	0.333	0.296	0.281
8	0.456	0.369	0.311	0.269	0.359	0.306	0.268	0.349	0.302	0.266	0.251
9	0.427	0.339	0.283	0.243	0.331	0.279	0.242	0.323	0.275	0.24	0.226
10	0.401	0.314	0.259	0.221	0.307	0.256	0.22	0.3	0.253	0.219	0.205

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

	0	45	90
0	2714	2714	2714
45	2205	2479	2662
55	1900	2287	2498
65	1560	2038	2010
75	1196	1534	1309
85	752	852	776

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.

