



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: 17526

DATE: 12-09-2009

PREPARED FOR: RENOVA LIGHTING SYSTEMS

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

LUMINAIRE: FORMED STEEL HOUSING, FORMED WHITE ENAMEL ALUMINUM REFLECTOR, 6 CELL, 1-5/8" DEEP, FORMED WHITE ENAMEL STEEL LOUVER.

LAMP: TWO 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1325 LUMENS EACH.

LAMP CATALOG NUMBER: GE F17T8/SP41/ECO

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

MOUNTING: RECESSED

ELECTRICAL VALUES: 120.0VAC, 0.2191A, 26.21W

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	891	891	891	891	891	891	891	891	891	891	891	891	891	891	891	891	
5	883	883	884	887	888	887	884	883	883	883	884	887	888	887	884	883	84.0
15	837	838	844	851	856	851	844	838	837	838	844	851	856	851	844	838	238.2
25	754	757	768	790	803	790	768	757	754	757	768	790	803	790	768	757	356.5
35	646	647	671	715	742	715	671	647	646	647	671	715	742	715	671	647	426.3
45	518	516	557	611	639	611	557	516	518	516	557	611	639	611	557	516	434.6
55	375	368	410	422	414	422	410	368	375	368	410	422	414	422	410	368	351.7
65	231	224	201	123	114	123	201	224	231	224	201	123	114	123	201	224	182.1
75	87	86	60	47	39	47	60	86	87	86	60	47	39	47	60	86	70.5
85	21	20	16	8	3	8	16	20	21	20	16	8	3	8	16	20	16.1
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	0

Zonal Lumen Summary

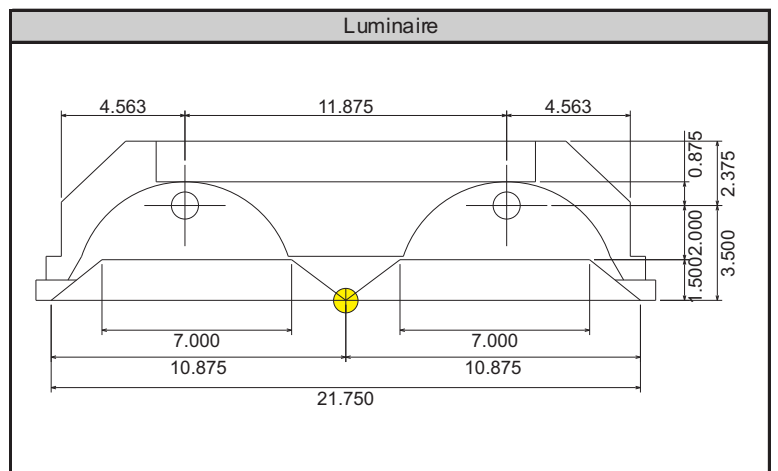
Zone	Lumens	% of Lamp	% of Luminaire
0-30	678.7	25.6%	31.4%
0-40	1105.0	41.7%	51.2%
0-60	1891.3	71.4%	87.6%
0-90	2160.1	81.5%	100.0%
90-180	0.0	0.0%	0.0%
0-180	2160.1	81.5%	100.0%

Total luminaire efficiency: 81.5%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.18 90 deg: 1.30
180 deg: 1.18 270 deg: 1.30

Shielding angle: 0 deg: 14 90 deg: 29



Approved By: _____

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	891	891	891	891	891	891	891	891	891	891	891	891	891	891	891	891
5	883	883	884	887	888	887	884	883	883	883	884	887	888	887	884	883
10	865	866	869	874	876	874	869	866	865	866	869	874	876	874	869	866
15	837	838	844	851	856	851	844	838	837	838	844	851	856	851	844	838
20	799	802	809	822	832	822	809	802	799	802	809	822	832	822	809	802
25	754	757	768	790	803	790	768	757	754	757	768	790	803	790	768	757
30	703	705	722	753	774	753	722	705	703	705	722	753	774	753	722	705
35	646	647	671	715	742	715	671	647	646	647	671	715	742	715	671	647
40	584	584	616	669	700	669	616	584	584	584	616	669	700	669	616	584
45	518	516	557	611	639	611	557	516	518	516	557	611	639	611	557	516
50	448	442	490	529	552	529	490	442	448	442	490	529	552	529	490	442
55	375	368	410	422	414	422	410	368	375	368	410	422	414	422	410	368
60	303	295	316	256	212	256	316	295	303	295	316	256	212	256	316	295
65	231	224	201	123	114	123	201	224	231	224	201	123	114	123	201	224
70	151	153	95	79	71	79	95	153	151	153	95	79	71	79	95	153
75	87	86	60	47	39	47	60	86	87	86	60	47	39	47	60	86
80	49	47	36	24	17	24	36	47	49	47	36	24	17	24	36	47
85	21	20	16	8	3	8	16	20	21	20	16	8	3	8	16	20
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	21.2	45-50	213.5	90-95	0.0	135-140	0.0
5-10	62.8	50-55	194.1	95-100	0.0	140-145	0.0
10-15	101.7	55-60	157.6	100-105	0.0	145-150	0.0
15-20	136.5	60-65	110.2	105-110	0.0	150-155	0.0
20-25	166.3	65-70	71.9	110-115	0.0	155-160	0.0
25-30	190.2	70-75	44.7	115-120	0.0	160-165	0.0
30-35	207.8	75-80	25.8	120-125	0.0	165-170	0.0
35-40	218.5	80-85	13.0	125-130	0.0	170-175	0.0
40-45	221.1	85-90	3.1	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	0.994	0.994	0.994	0.994	0.97	0.97	0.97	0.97	0.948	0.948	0.948	0.948
1	0.921	0.883	0.85	0.82	0.898	0.864	0.834	0.806	0.877	0.846	0.818	0.793
2	0.847	0.78	0.726	0.681	0.825	0.765	0.715	0.673	0.804	0.749	0.704	0.665
3	0.778	0.692	0.626	0.574	0.757	0.678	0.618	0.569	0.738	0.666	0.609	0.564
4	0.715	0.616	0.545	0.491	0.696	0.605	0.539	0.488	0.678	0.595	0.533	0.485
5	0.66	0.553	0.48	0.426	0.642	0.544	0.475	0.424	0.626	0.535	0.47	0.422
6	0.61	0.499	0.426	0.374	0.594	0.491	0.422	0.372	0.579	0.484	0.418	0.371
7	0.566	0.453	0.381	0.331	0.552	0.446	0.378	0.33	0.538	0.44	0.375	0.329
8	0.527	0.414	0.344	0.296	0.514	0.408	0.341	0.295	0.502	0.402	0.339	0.295
9	0.492	0.38	0.312	0.267	0.48	0.375	0.31	0.267	0.469	0.37	0.308	0.266
10	0.461	0.35	0.285	0.243	0.451	0.346	0.284	0.242	0.44	0.342	0.282	0.242

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	0.906	0.906	0.906	0.906	0.867	0.867	0.867	0.832	0.832	0.832	0.815
1	0.837	0.812	0.789	0.768	0.78	0.762	0.745	0.751	0.737	0.723	0.707
2	0.766	0.721	0.683	0.649	0.695	0.663	0.635	0.671	0.644	0.621	0.604
3	0.702	0.642	0.594	0.554	0.62	0.579	0.545	0.6	0.565	0.536	0.519
4	0.645	0.575	0.521	0.478	0.556	0.51	0.472	0.539	0.499	0.466	0.449
5	0.595	0.518	0.461	0.417	0.502	0.452	0.413	0.487	0.444	0.408	0.392
6	0.551	0.469	0.411	0.367	0.456	0.404	0.364	0.443	0.397	0.361	0.345
7	0.513	0.428	0.369	0.327	0.416	0.364	0.324	0.405	0.358	0.322	0.307
8	0.479	0.392	0.334	0.293	0.382	0.329	0.291	0.373	0.325	0.289	0.274
9	0.448	0.361	0.304	0.264	0.352	0.3	0.263	0.344	0.297	0.262	0.247
10	0.421	0.334	0.279	0.24	0.327	0.275	0.239	0.319	0.272	0.238	0.225

Average Luminance Table (cd/m²)

	0	45	90
0	2954	2954	2954
45	2428	2609	2994
55	2165	2368	2392
65	1813	1575	893
75	1113	771	498
85	814	609	126

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.

