



# 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: 18803

DATE: 06-16-2010

PREPARED FOR: RENOVA LIGHTING SYSTEMS, INC.

CATALOG NUMBER: ECS-EGF2-MN-217-UNV-12L-FRL1 (FROSTED DIFFUSER)

LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED WHITE ENAMEL ALUMINUM REFLECTORS WITH SPECULAR ALUMINUM REFLECTOR ABOVE LAMPS, FROSTED LINEAR PRISMATIC PLASTIC CENTER DIFFUSER.

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, 0.2178A, 25.93W

### 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	839	839	839	839	839	839	839	839	839	839	839	839	839	839	839	839	
5	833	834	835	835	834	835	835	834	833	834	835	835	834	835	835	834	79.3
15	799	801	804	807	808	807	804	801	799	801	804	807	808	807	804	801	226.7
25	726	731	743	752	756	752	743	731	726	731	743	752	756	752	743	731	341.7
35	620	632	657	678	686	678	657	632	620	632	657	678	686	678	657	632	409.6
45	489	510	550	586	598	586	550	510	489	510	550	586	598	586	550	510	422.3
55	350	376	428	476	493	476	428	376	350	376	428	476	493	476	428	376	379.9
65	220	245	296	335	350	335	296	245	220	245	296	335	350	335	296	245	285.1
75	108	123	146	141	136	141	146	123	108	123	146	141	136	141	146	123	143.8
85	24	25	29	30	29	30	29	25	24	25	29	30	29	30	29	25	33.3
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	

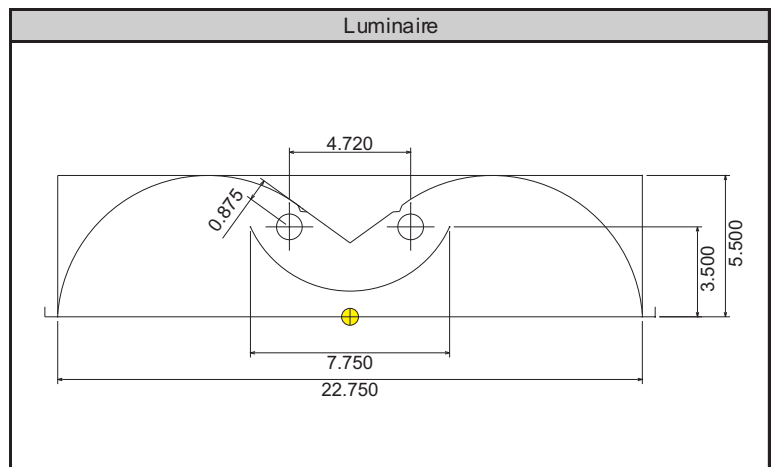
### Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	647.7	24.0%	27.9%
0-40	1057.3	39.2%	45.5%
0-60	1859.5	68.9%	80.1%
0-90	2321.7	86.0%	100.0%
90-180	0.0	0.0%	0.0%
0-180	2321.7	86.0%	100.0%

Total luminaire efficiency: 86.0%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.20 90 deg: 1.28  
180 deg: 1.20 270 deg: 1.28



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	839	839	839	839	839	839	839	839	839	839	839	839	839	839	839	839
5	833	834	835	835	834	835	835	834	833	834	835	835	834	835	835	834
10	821	822	823	825	824	825	823	822	821	822	823	825	824	825	823	822
15	799	801	804	807	808	807	804	801	799	801	804	807	808	807	804	801
20	767	770	777	783	784	783	777	770	767	770	777	783	784	783	777	770
25	726	731	743	752	756	752	743	731	726	731	743	752	756	752	743	731
30	676	685	703	718	723	718	703	685	676	685	703	718	723	718	703	685
35	620	632	657	678	686	678	657	632	620	632	657	678	686	678	657	632
40	556	573	606	634	644	634	606	573	556	573	606	634	644	634	606	573
45	489	510	550	586	598	586	550	510	489	510	550	586	598	586	550	510
50	420	444	491	534	548	534	491	444	420	444	491	534	548	534	491	444
55	350	376	428	476	493	476	428	376	350	376	428	476	493	476	428	376
60	283	309	363	411	423	411	363	309	283	309	363	411	423	411	363	309
65	220	245	296	335	350	335	296	245	220	245	296	335	350	335	296	245
70	162	182	219	245	239	245	219	182	162	182	219	245	239	245	219	182
75	108	123	146	141	136	141	146	123	108	123	146	141	136	141	146	123
80	62	69	77	79	79	79	77	69	62	69	77	79	79	79	77	69
85	24	25	29	30	29	30	29	25	24	25	29	30	29	30	29	25
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	20.0	45-50	209.2	90-95	0.0	135-140	0.0
5-10	59.3	50-55	198.8	95-100	0.0	140-145	0.0
10-15	96.5	55-60	181.2	100-105	0.0	145-150	0.0
15-20	130.2	60-65	157.5	105-110	0.0	150-155	0.0
20-25	159.2	65-70	127.6	110-115	0.0	155-160	0.0
25-30	182.6	70-75	89.3	115-120	0.0	160-165	0.0
30-35	199.7	75-80	54.5	120-125	0.0	165-170	0.0
35-40	209.9	80-85	27.1	125-130	0.0	170-175	0.0
40-45	213.0	85-90	6.1	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	1.049	1.049	1.049	1.049	1.024	1.024	1.024	1.024	1	1	1	1
1	0.962	0.918	0.878	0.843	0.937	0.897	0.861	0.829	0.914	0.878	0.845	0.815
2	0.877	0.8	0.737	0.685	0.853	0.783	0.725	0.677	0.831	0.767	0.714	0.668
3	0.801	0.702	0.627	0.568	0.778	0.688	0.618	0.563	0.757	0.674	0.61	0.558
4	0.733	0.622	0.541	0.481	0.712	0.61	0.534	0.477	0.692	0.598	0.528	0.474
5	0.674	0.555	0.473	0.413	0.655	0.545	0.468	0.411	0.637	0.535	0.463	0.408
6	0.622	0.499	0.418	0.36	0.605	0.49	0.414	0.359	0.588	0.482	0.41	0.357
7	0.577	0.452	0.373	0.318	0.561	0.445	0.369	0.317	0.546	0.438	0.366	0.315
8	0.536	0.412	0.335	0.283	0.522	0.406	0.333	0.282	0.508	0.4	0.33	0.281
9	0.501	0.378	0.304	0.255	0.488	0.372	0.302	0.254	0.475	0.367	0.3	0.253
10	0.469	0.348	0.277	0.231	0.457	0.344	0.276	0.23	0.446	0.339	0.274	0.23

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	0.955	0.955	0.955	0.955	0.915	0.915	0.915	0.877	0.877	0.877	0.86
1	0.871	0.841	0.814	0.79	0.808	0.786	0.765	0.777	0.759	0.743	0.725
2	0.789	0.736	0.692	0.653	0.708	0.671	0.638	0.682	0.651	0.624	0.605
3	0.717	0.649	0.593	0.548	0.625	0.578	0.538	0.603	0.563	0.529	0.51
4	0.656	0.577	0.516	0.467	0.557	0.504	0.461	0.538	0.492	0.454	0.436
5	0.604	0.517	0.453	0.404	0.5	0.444	0.399	0.484	0.435	0.395	0.377
6	0.558	0.467	0.402	0.354	0.452	0.394	0.35	0.439	0.387	0.347	0.33
7	0.518	0.424	0.36	0.313	0.412	0.354	0.311	0.4	0.348	0.308	0.291
8	0.483	0.388	0.325	0.28	0.378	0.32	0.278	0.367	0.315	0.276	0.26
9	0.453	0.357	0.295	0.252	0.348	0.291	0.251	0.339	0.287	0.249	0.234
10	0.426	0.33	0.27	0.229	0.322	0.267	0.228	0.315	0.264	0.227	0.212

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

	0	45	90
0	2498	2498	2498
45	2062	2319	2518
55	1818	2225	2558
65	1554	2084	2470
75	1243	1678	1571
85	808	994	1002

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.

