



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: 18184 DATE: 02-22-2010
 PREPARED FOR: RENOVA LIGHTING SYSTEMS
 CATALOG NUMBER: EFK-22-M-2LT8-V
 LUMINAIRE: FORMED WHITE ENAMEL STEEL HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR, NO ENCLOSURE.
 LAMP: TWO 17 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 1350 LUMENS EACH.
 LAMP CATALOG NUMBER: PHILIPS F17/T8/TL835
 BALLAST: ONE SYLVANIA "QUICKTRONIC" QHE2X32T8/UNV-ISL-SC
 MOUNTING: RECESSED
 ELECTRICAL VALUES: 120.0VAC, 0.2239A, 26.78W

Candela Distribution

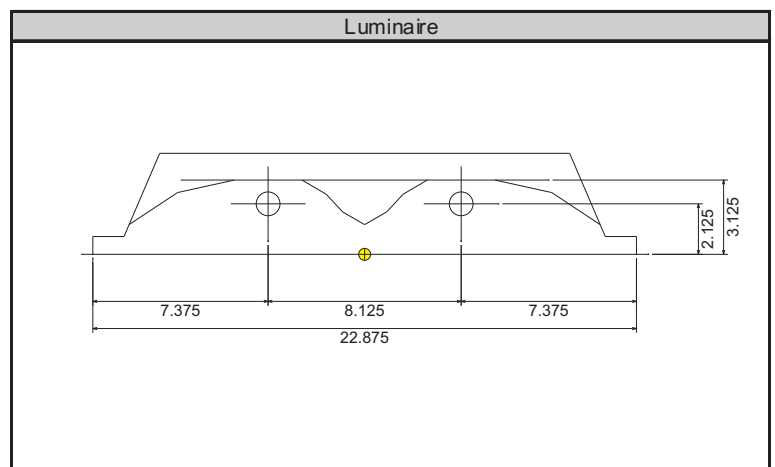
	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5	Flux
0	973	973	973	973	973	973	973	973	973	973	973	973	973	973	973	973	
5	966	966	970	975	977	975	970	966	966	966	970	975	977	975	970	966	92.8
15	930	949	963	952	949	952	963	949	930	949	963	952	949	952	963	949	268.1
25	856	888	866	858	854	858	866	888	856	888	866	858	854	858	866	888	398.9
35	743	761	744	714	711	714	744	761	743	761	744	714	711	714	744	761	461.6
45	598	607	579	590	565	590	579	607	598	607	579	590	565	590	579	607	453.4
55	433	431	420	415	430	415	420	431	433	431	420	415	430	415	420	431	380.5
65	262	265	294	321	334	321	294	265	262	265	294	321	334	321	294	265	296.6
75	103	130	188	181	162	181	188	130	103	130	188	181	162	181	188	130	162.0
85	17	19	12	10	8	10	12	19	17	19	12	10	8	10	12	19	20.5
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	759.8	28.1%	30.0%
0-40	1221.3	45.2%	48.2%
0-60	2055.2	76.1%	81.1%
0-90	2534.3	93.9%	100.0%
90-180	0.0	0.0%	0.0%
0-180	2534.3	93.9%	100.0%

Total luminaire efficiency: 93.9%

CIE Type: Direct
 Spacing Criterion: 0 deg: 1.23 90 deg: 1.20
 180 deg: 1.23 270 deg: 1.20



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	973	973	973	973	973	973	973	973	973	973	973	973	973	973	973	973
5	966	966	970	975	977	975	970	966	966	966	970	975	977	975	970	966
10	952	959	979	986	986	986	979	959	952	959	979	986	986	986	979	959
15	930	949	963	952	949	952	963	949	930	949	963	952	949	952	963	949
20	899	929	922	906	903	906	922	929	899	929	922	906	903	906	922	929
25	856	888	866	858	854	858	866	888	856	888	866	858	854	858	866	888
30	805	828	813	795	783	795	813	828	805	828	813	795	783	795	813	828
35	743	761	744	714	711	714	744	761	743	761	744	714	711	714	744	761
40	673	685	659	661	672	661	659	685	673	685	659	661	672	661	659	685
45	598	607	579	590	565	590	579	607	598	607	579	590	565	590	579	607
50	517	523	521	471	460	471	521	523	517	523	521	471	460	471	521	523
55	433	431	420	415	430	415	420	431	433	431	420	415	430	415	420	431
60	346	337	332	389	413	389	332	337	346	337	332	389	413	389	332	337
65	262	265	294	321	334	321	294	265	262	265	294	321	334	321	294	265
70	180	187	236	295	308	295	236	187	180	187	236	295	308	295	236	187
75	103	130	188	181	162	181	188	130	103	130	188	181	162	181	188	130
80	46	81	73	39	33	39	73	81	46	81	73	39	33	39	73	81
85	17	19	12	10	8	10	12	19	17	19	12	10	8	10	12	19
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	23.2	45-50	219.8	90-95	0.0	135-140	0.0
5-10	69.6	50-55	200.6	95-100	0.0	140-145	0.0
10-15	114.2	55-60	179.9	100-105	0.0	145-150	0.0
15-20	153.8	60-65	159.8	105-110	0.0	150-155	0.0
20-25	186.9	65-70	136.7	110-115	0.0	155-160	0.0
25-30	212.0	70-75	105.9	115-120	0.0	160-165	0.0
30-35	227.2	75-80	56.1	120-125	0.0	165-170	0.0
35-40	234.3	80-85	16.6	125-130	0.0	170-175	0.0
40-45	233.6	85-90	3.8	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	1.145	1.145	1.145	1.145	1.117	1.117	1.117	1.117	1.091	1.091	1.091	1.091
1	1.053	1.006	0.965	0.927	1.027	0.984	0.946	0.912	1.001	0.963	0.928	0.897
2	0.962	0.88	0.813	0.757	0.936	0.862	0.8	0.748	0.912	0.844	0.787	0.739
3	0.88	0.775	0.695	0.632	0.856	0.76	0.685	0.626	0.833	0.745	0.676	0.62
4	0.808	0.688	0.602	0.537	0.785	0.675	0.595	0.533	0.764	0.663	0.588	0.53
5	0.744	0.616	0.528	0.464	0.723	0.605	0.523	0.462	0.704	0.595	0.517	0.459
6	0.688	0.555	0.468	0.407	0.669	0.546	0.464	0.405	0.651	0.537	0.46	0.403
7	0.638	0.504	0.419	0.36	0.621	0.496	0.416	0.359	0.605	0.489	0.412	0.358
8	0.594	0.461	0.378	0.322	0.579	0.454	0.375	0.321	0.564	0.447	0.372	0.32
9	0.555	0.423	0.344	0.291	0.541	0.417	0.341	0.29	0.528	0.412	0.339	0.289
10	0.521	0.391	0.314	0.264	0.508	0.386	0.312	0.264	0.496	0.381	0.31	0.263

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	1.043	1.043	1.043	1.043	0.999	0.999	0.999	0.958	0.958	0.958	0.939
1	0.954	0.923	0.895	0.869	0.887	0.864	0.842	0.853	0.835	0.817	0.798
2	0.867	0.811	0.763	0.722	0.78	0.741	0.706	0.752	0.719	0.69	0.67
3	0.79	0.717	0.658	0.609	0.691	0.641	0.599	0.667	0.625	0.589	0.568
4	0.724	0.639	0.574	0.522	0.618	0.561	0.515	0.597	0.549	0.508	0.488
5	0.668	0.575	0.506	0.454	0.556	0.496	0.449	0.539	0.487	0.444	0.425
6	0.618	0.52	0.451	0.399	0.505	0.443	0.396	0.49	0.435	0.392	0.373
7	0.575	0.474	0.405	0.355	0.461	0.399	0.352	0.448	0.392	0.35	0.331
8	0.537	0.435	0.367	0.318	0.423	0.362	0.316	0.412	0.356	0.314	0.297
9	0.504	0.401	0.334	0.288	0.391	0.33	0.286	0.381	0.326	0.285	0.268
10	0.474	0.371	0.307	0.262	0.363	0.303	0.261	0.354	0.299	0.26	0.243

Average Luminance Table (cd/m²)

	0	45	90
0	2881	2881	2881
45	2504	2427	2368
55	2234	2170	2223
65	1839	2064	2342
75	1179	2156	1857
85	583	420	285

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.

