



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: 16483

DATE: 09-17-2009

PREPARED FOR: MERCURY LIGHTING PRODUCTS

CATALOG NUMBER: HB80-432-OCT-FR/ASC-ELB-UNI-V

LUMINAIRE: FORMED STEEL HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR,
CLEAR PLASTIC ENCLOSURE.

LAMP: FOUR 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 2850 LUMENS
EACH.

LAMP CATALOG NUMBER: PHILIPS F32T8/TL841/ALTO

BALLAST: ONE UNIVERSAL LIGHTING TECHNOLOGIES B432IUNVHP-A

MOUNTING: PENDANT/SURFACE

ELECTRICAL VALUES: 120.0VAC, 0.8732A, 104.54W

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	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	
5	3961	3923	3868	3834	3822	3834	3868	3923	3961	3923	3868	3834	3822	3834	3868	3923	365.4
15	3815	3644	3503	3369	3351	3369	3503	3644	3815	3644	3503	3369	3351	3369	3503	3644	995.1
25	3530	3266	3091	3029	3056	3029	3091	3266	3530	3266	3091	3029	3056	3029	3091	3266	1463.1
35	3114	2734	2725	2628	2640	2628	2725	2734	3114	2734	2725	2628	2640	2628	2725	2734	1713.9
45	2576	2244	2187	2038	1927	2038	2187	2244	2576	2244	2187	2038	1927	2038	2187	2244	1675.1
55	1928	1676	1446	1251	1191	1251	1446	1676	1928	1676	1446	1251	1191	1251	1446	1676	1322.2
65	1200	1028	762	741	755	741	762	1028	1200	1028	762	741	755	741	762	1028	866.3
75	480	351	348	356	351	356	348	351	480	351	348	356	351	356	348	351	390.0
85	22	29	25	16	13	16	25	29	22	29	25	16	13	16	25	29	47.9
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	

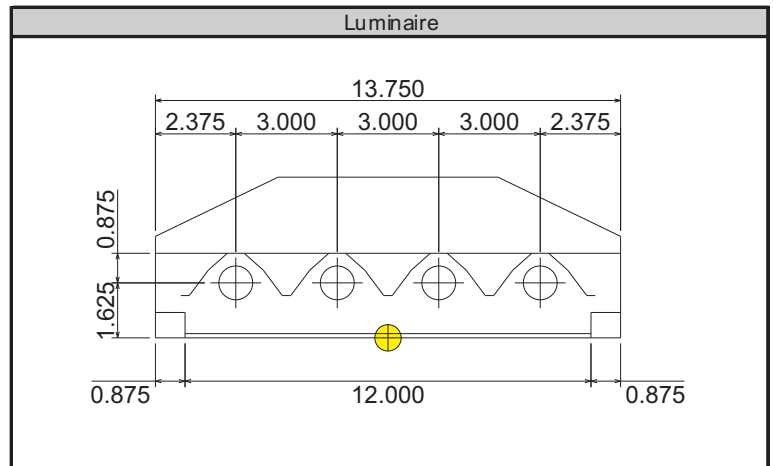
Zonal Lumen Summary

Zone	Lumens	% of Lamp	% of Luminaire
0-30	2823.7	24.8%	31.9%
0-40	4537.5	39.8%	51.3%
0-60	7534.9	66.1%	85.2%
0-90	8839.1	77.5%	100.0%
90-180	0.0	0.0%	0.0%
0-180	8839.1	77.5%	100.0%

Total luminaire efficiency: 77.5%

CIE Type: Direct

Spacing Criterion: 0 deg: 1.25 90 deg: 1.09
180 deg: 1.25 270 deg: 1.09



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	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977	3977
5	3961	3923	3868	3834	3822	3834	3868	3923	3961	3923	3868	3834	3822	3834	3868	3923
10	3906	3804	3691	3650	3621	3650	3691	3804	3906	3804	3691	3650	3621	3650	3691	3804
15	3815	3644	3503	3369	3351	3369	3503	3644	3815	3644	3503	3369	3351	3369	3503	3644
20	3690	3475	3245	3235	3231	3235	3245	3475	3690	3475	3245	3235	3231	3235	3245	3475
25	3530	3266	3091	3029	3056	3029	3091	3266	3530	3266	3091	3029	3056	3029	3091	3266
30	3338	2988	2874	2917	2861	2917	2874	2988	3338	2988	2874	2917	2861	2917	2874	2988
35	3114	2734	2725	2628	2640	2628	2725	2734	3114	2734	2725	2628	2640	2628	2725	2734
40	2860	2504	2436	2438	2384	2438	2436	2504	2860	2504	2436	2438	2384	2438	2436	2504
45	2576	2244	2187	2038	1927	2038	2187	2244	2576	2244	2187	2038	1927	2038	2187	2244
50	2264	1958	1896	1554	1492	1554	1896	1958	2264	1958	1896	1554	1492	1554	1896	1958
55	1928	1676	1446	1251	1191	1251	1446	1676	1928	1676	1446	1251	1191	1251	1446	1676
60	1571	1332	1060	952	942	952	1060	1332	1571	1332	1060	952	942	952	1060	1332
65	1200	1028	762	741	755	741	762	1028	1200	1028	762	741	755	741	762	1028
70	827	621	520	567	585	567	520	621	827	621	520	567	585	567	520	621
75	480	351	348	356	351	356	348	351	480	351	348	356	351	356	348	351
80	193	142	157	159	159	159	157	142	193	142	157	159	159	159	157	142
85	22	29	25	16	13	16	25	29	22	29	25	16	13	16	25	29
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	93.8	45-50	807.8	90-95	0.0	135-140	0.0
5-10	271.6	50-55	719.7	95-100	0.0	140-145	0.0
10-15	429.6	55-60	602.5	100-105	0.0	145-150	0.0
15-20	565.5	60-65	492.5	105-110	0.0	150-155	0.0
20-25	683.7	65-70	373.8	110-115	0.0	155-160	0.0
25-30	779.5	70-75	252.9	115-120	0.0	160-165	0.0
30-35	837.6	75-80	137.1	120-125	0.0	165-170	0.0
35-40	876.3	80-85	45.6	125-130	0.0	170-175	0.0
40-45	867.3	85-90	2.3	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	0.946	0.946	0.946	0.946	0.923	0.923	0.923	0.923	0.902	0.902	0.902	0.902
1	0.875	0.839	0.806	0.777	0.853	0.82	0.791	0.764	0.833	0.803	0.776	0.752
2	0.803	0.739	0.687	0.643	0.782	0.724	0.676	0.635	0.762	0.71	0.665	0.628
3	0.737	0.654	0.591	0.541	0.717	0.642	0.583	0.536	0.699	0.63	0.575	0.532
4	0.678	0.583	0.515	0.463	0.66	0.573	0.509	0.46	0.643	0.563	0.503	0.457
5	0.626	0.524	0.453	0.402	0.609	0.515	0.449	0.4	0.593	0.506	0.444	0.398
6	0.579	0.473	0.403	0.354	0.564	0.466	0.4	0.352	0.55	0.458	0.396	0.351
7	0.538	0.43	0.362	0.314	0.524	0.424	0.359	0.313	0.511	0.418	0.356	0.312
8	0.501	0.393	0.327	0.282	0.489	0.388	0.324	0.281	0.477	0.383	0.322	0.28
9	0.469	0.362	0.297	0.255	0.457	0.357	0.295	0.254	0.447	0.352	0.294	0.253
10	0.44	0.334	0.272	0.232	0.429	0.33	0.271	0.231	0.42	0.326	0.269	0.231

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	0.862	0.862	0.862	0.862	0.825	0.825	0.825	0.791	0.791	0.791	0.775
1	0.794	0.77	0.748	0.728	0.74	0.723	0.706	0.713	0.699	0.685	0.67
2	0.726	0.683	0.645	0.613	0.658	0.627	0.599	0.635	0.609	0.586	0.57
3	0.665	0.607	0.561	0.522	0.586	0.547	0.514	0.567	0.533	0.505	0.489
4	0.611	0.544	0.492	0.451	0.526	0.481	0.445	0.51	0.471	0.439	0.423
5	0.564	0.49	0.436	0.394	0.475	0.427	0.39	0.461	0.419	0.386	0.37
6	0.523	0.445	0.389	0.348	0.432	0.382	0.345	0.42	0.376	0.342	0.326
7	0.487	0.406	0.35	0.31	0.395	0.345	0.308	0.385	0.34	0.306	0.291
8	0.455	0.373	0.318	0.278	0.363	0.313	0.277	0.354	0.309	0.275	0.261
9	0.427	0.344	0.29	0.252	0.336	0.286	0.251	0.328	0.283	0.25	0.236
10	0.402	0.319	0.266	0.23	0.311	0.263	0.229	0.305	0.26	0.228	0.215

Average Luminance Table (cd/m²)

	0	45	90
0	11590	11590	11590
45	10616	9014	7943
55	9795	7347	6049
65	8274	5254	5208
75	5408	3913	3947
85	748	835	447

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.

