



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: 15540 DATE: 05-06-2009
 PREPARED FOR: LIGHTWINGS LIGHTING
 CATALOG NUMBER:
 LUMINAIRE: FORMED STEEL HOUSING, FORMED SPECULAR ALUMINUM REFLECTORS,
 NO ENCLOSURE.
 LAMP: SIX 32 WATT T8 LINEAR FLUORESCENT LAMPS RATED AT 3100 LUMENS
 EACH.
 LAMP CATALOG NUMBER: GE F32T8XLSPX41HLECO
 BALLAST: ONE GE GE632MAX-H90-S60
 MOUNTING: PENDANT
 ELECTRICAL VALUES: 120.0VAC, 1.7825A, 213.48W

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	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	
5	6574	6570	6571	6568	6563	6568	6571	6570	6574	6570	6571	6568	6563	6568	6571	6570	621.7
15	6326	6292	6137	6007	5948	6007	6137	6292	6326	6292	6137	6007	5948	6007	6137	6292	1728.4
25	5851	5686	5350	5094	5014	5094	5350	5686	5851	5686	5350	5094	5014	5094	5350	5686	2483.3
35	5170	4849	4395	4224	4194	4224	4395	4849	5170	4849	4395	4224	4194	4224	4395	4849	2836.2
45	4320	3849	3495	3330	3241	3330	3495	3849	4320	3849	3495	3330	3241	3330	3495	3849	2784.9
55	3340	2774	2503	2503	2516	2503	2503	2774	3340	2774	2503	2503	2516	2503	2503	2774	2400.3
65	2269	1787	1747	1944	2012	1944	1747	1787	2269	1787	1747	1944	2012	1944	1747	1787	1886.1
75	1168	927	1176	1342	1403	1342	1176	927	1168	927	1176	1342	1403	1342	1176	927	1253.3
85	198	366	536	644	684	644	536	366	198	366	536	644	684	644	536	366	554.6
90	0	101	236	338	377	338	236	101	0	101	236	338	377	338	236	101	
95	0	12	78	143	171	143	78	12	0	12	78	143	171	143	78	12	104.5
105	0	0	4	30	40	30	4	0	0	0	4	30	40	30	4	0	17.1
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3
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	4833.3	26.0%	29.0%
0-40	7669.5	41.2%	46.0%
0-60	12854.7	69.1%	77.1%
0-90	16548.8	89.0%	99.3%
90-180	121.9	0.7%	0.7%
0-180	16670.7	89.6%	100.0%

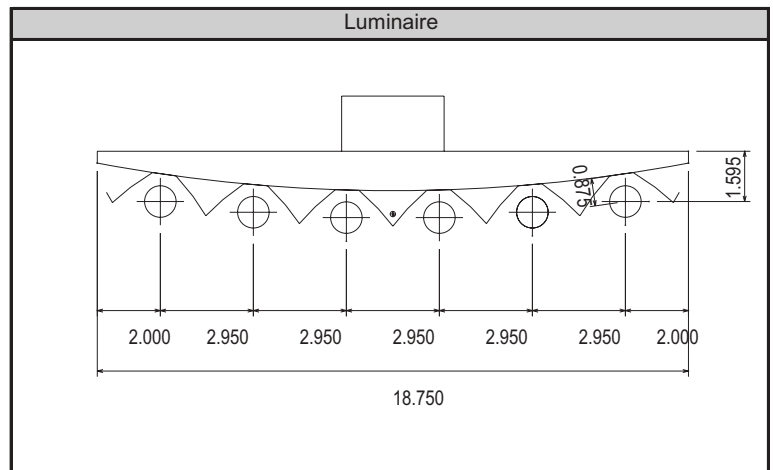
Total luminaire efficiency: 89.6%

CIE Type:

Direct

Spacing Criterion:

0 deg: 1.25 90 deg: 1.06
 180 deg: 1.25 270 deg: 1.06



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	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600	6600
5	6574	6570	6571	6568	6563	6568	6571	6570	6574	6570	6571	6568	6563	6568	6571	6570
10	6480	6480	6406	6333	6311	6333	6406	6480	6480	6480	6406	6333	6311	6333	6406	6480
15	6326	6292	6137	6007	5948	6007	6137	6292	6326	6292	6137	6007	5948	6007	6137	6292
20	6116	6024	5784	5580	5514	5580	5784	6024	6116	6024	5784	5580	5514	5580	5784	6024
25	5851	5686	5350	5094	5014	5094	5350	5686	5851	5686	5350	5094	5014	5094	5350	5686
30	5534	5305	4872	4641	4559	4641	4872	5305	5534	5305	4872	4641	4559	4641	4872	5305
35	5170	4849	4395	4224	4194	4224	4395	4849	5170	4849	4395	4224	4194	4224	4395	4849
40	4763	4359	3912	3817	3742	3817	3912	4359	4763	4359	3912	3817	3742	3817	3912	4359
45	4320	3849	3495	3330	3241	3330	3495	3849	4320	3849	3495	3330	3241	3330	3495	3849
50	3842	3301	3012	2872	2839	2872	3012	3301	3842	3301	3012	2872	2839	2872	3012	3301
55	3340	2774	2503	2503	2516	2503	2503	2774	3340	2774	2503	2503	2516	2503	2503	2774
60	2812	2275	2089	2190	2267	2190	2089	2275	2812	2275	2089	2190	2267	2190	2089	2275
65	2269	1787	1747	1944	2012	1944	1747	1787	2269	1787	1747	1944	2012	1944	1747	1787
70	1718	1299	1480	1645	1704	1645	1480	1299	1718	1299	1480	1645	1704	1645	1480	1299
75	1168	927	1176	1342	1403	1342	1176	927	1168	927	1176	1342	1403	1342	1176	927
80	642	645	876	1027	1073	1027	876	645	642	645	876	1027	1073	1027	876	645
85	198	366	536	644	684	644	536	366	198	366	536	644	684	644	536	366
90	0	101	236	338	377	338	236	101	0	101	236	338	377	338	236	101
95	0	12	78	143	171	143	78	12	0	12	78	143	171	143	78	12
100	0	0	28	74	93	74	28	0	0	0	28	74	93	74	28	0
105	0	0	4	30	40	30	4	0	0	0	4	30	40	30	4	0
110	0	0	0	5	14	5	0	0	0	0	0	5	14	5	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	157.5	45-50	1359.6	90-95	74.5	135-140	0.0
5-10	464.1	50-55	1260.2	95-100	30.0	140-145	0.0
10-15	744.3	55-60	1140.1	100-105	13.1	145-150	0.0
15-20	984.0	60-65	1015.7	105-110	4.1	150-155	0.0
20-25	1172.8	65-70	870.4	110-115	0.3	155-160	0.0
25-30	1310.4	70-75	709.3	115-120	0.0	160-165	0.0
30-35	1396.4	75-80	544.1	120-125	0.0	165-170	0.0
35-40	1439.8	80-85	365.8	125-130	0.0	170-175	0.0
40-45	1425.3	85-90	188.9	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	1.092	1.092	1.092	1.092	1.065	1.065	1.065	1.065	1.04	1.04	1.04	1.04
1	0.995	0.946	0.902	0.863	0.969	0.924	0.884	0.848	0.943	0.903	0.866	0.833
2	0.907	0.824	0.756	0.7	0.881	0.806	0.743	0.691	0.857	0.788	0.731	0.682
3	0.829	0.725	0.645	0.582	0.805	0.709	0.635	0.577	0.782	0.694	0.626	0.571
4	0.761	0.643	0.559	0.495	0.738	0.63	0.551	0.491	0.717	0.618	0.544	0.487
5	0.701	0.576	0.49	0.428	0.68	0.565	0.484	0.425	0.661	0.554	0.479	0.422
6	0.648	0.519	0.435	0.375	0.629	0.51	0.43	0.373	0.612	0.501	0.426	0.371
7	0.602	0.472	0.39	0.333	0.585	0.464	0.386	0.331	0.569	0.456	0.382	0.33
8	0.56	0.431	0.352	0.298	0.545	0.425	0.349	0.297	0.531	0.418	0.346	0.296
9	0.524	0.397	0.32	0.269	0.51	0.391	0.318	0.268	0.497	0.385	0.315	0.267
10	0.492	0.366	0.293	0.245	0.479	0.361	0.291	0.244	0.467	0.357	0.289	0.243

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	0.992	0.992	0.992	0.992	0.949	0.949	0.949	0.909	0.909	0.909	0.89
1	0.896	0.863	0.833	0.806	0.827	0.802	0.78	0.793	0.774	0.755	0.736
2	0.812	0.755	0.707	0.665	0.725	0.684	0.649	0.696	0.663	0.633	0.613
3	0.739	0.667	0.608	0.56	0.641	0.591	0.549	0.617	0.575	0.539	0.519
4	0.678	0.594	0.53	0.48	0.573	0.517	0.472	0.552	0.505	0.465	0.446
5	0.625	0.535	0.468	0.417	0.516	0.458	0.412	0.499	0.448	0.407	0.388
6	0.579	0.485	0.417	0.367	0.469	0.409	0.363	0.454	0.401	0.36	0.341
7	0.539	0.442	0.375	0.327	0.429	0.369	0.324	0.416	0.362	0.321	0.303
8	0.504	0.406	0.34	0.293	0.394	0.335	0.291	0.383	0.329	0.289	0.272
9	0.473	0.374	0.31	0.266	0.364	0.306	0.264	0.355	0.301	0.262	0.246
10	0.445	0.347	0.285	0.242	0.338	0.281	0.241	0.33	0.277	0.239	0.224

Average Luminance Table (cd/m²)

	0	45	90
0	11609	11609	11609
45	10746	8165	7384
55	10242	7021	6815
65	9442	6375	6983
75	7940	6413	7072
85	4002	6164	6682

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.

