LTL 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

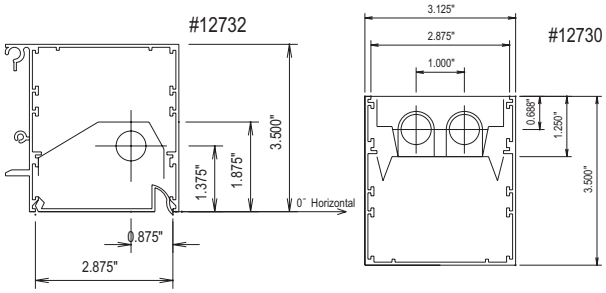
LTL NUMBER: 13168 DATE: 05-06-2008
PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING
CATALOG NUMBER: MLP-I2/D1-4-W-OP/DLP-X-120-T5HO
LUMINAIRE: EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM UPPER AND LOWER REFLECTOR, CLEAR LINEAR PRISMATIC PLASTIC LOWER LENS, OPEN TOP.
LAMPS: THREE 54 WATT HIGH OUTPUT T5 LINEAR FLUORESCENT LAMPS RATED AT 4400 LUMENS EACH.
LAMP CATALOG NUMBER: PHILIPS F54T5/835/HO/ALTO AND PHILIPS F54T5/850/HO/ALTO
BALLASTS: TWO UNIVERSAL LIGHTING TECHNOLOGIES B254PUNV-D
NOTE: THIS TEST WAS CALCULATED USING MEASURED DATA FROM LTL TEST NUMBERS 12730 AND 12732.
LUMEN TO CANDELA RATIO USED = 9.18
TOTAL INPUT WATTS =161.3 AT 120.0 VOLTS
THE 0 DEGREE PLANE IS PERPENDICULAR TO THE LAMPS.

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0	FLUX
0	789	789	789	789	789	789	789	789	789	
5	700	705	729	756	788	810	826	828	828	73
15	534	537	576	655	740	803	817	863	871	202
25	477	474	482	515	643	743	872	930	948	310
35	404	405	428	403	508	681	842	925	934	380
45	292	296	326	348	358	605	771	834	835	395
55	224	215	217	252	227	491	629	635	606	345
65	162	152	143	143	136	347	419	384	360	245
75	94	84	76	65	60	170	196	179	164	127
85	26	22	18	12	10	31	36	34	26	29
90	11	11	9	3	1	2	2	2	7	
95	75	161	135	121	112	117	128	141	92	135
105	360	522	600	623	625	619	606	514	383	591
115	694	936	967	1015	1052	1025	967	882	714	939
125	1010	1377	1285	1388	1395	1386	1280	1365	1025	1178
135	1304	1759	1778	1667	1638	1657	1763	1766	1324	1286
145	1552	1848	2122	2101	2096	2096	2112	1920	1566	1240
155	1756	1914	2260	2366	2373	2369	2302	1919	1770	993
165	1897	2002	2074	2175	2244	2207	2081	2004	1894	594
175	1966	1972	2021	2034	2034	2042	2032	1991	1966	193
180	1968	1968	1968	1968	1968	1968	1968	1968	1968	

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	585	4.4	6.3
0- 40	965	7.3	10.4
0- 60	1705	12.9	18.4
0- 90	2106	16.0	22.8
90-120	1665	12.6	18.0
90-130	2842	21.5	30.7
90-150	5368	40.7	58.0
90-180	7147	54.1	77.2
0-180	9253	70.1	100.0



TOTAL LUMINAIRE EFFICIENCY: 70.1%
CIE TYPE: SEMI-INDIRECT

PLANE:	0-DEG	90-DEG	180-DEG
SPACING CRITERIA:	0.8	1.1	1.7

Approved By: MG

THIS REPORT BASED ON LM-41 AND OTHER PERTINENT IESNA PROCEDURES.

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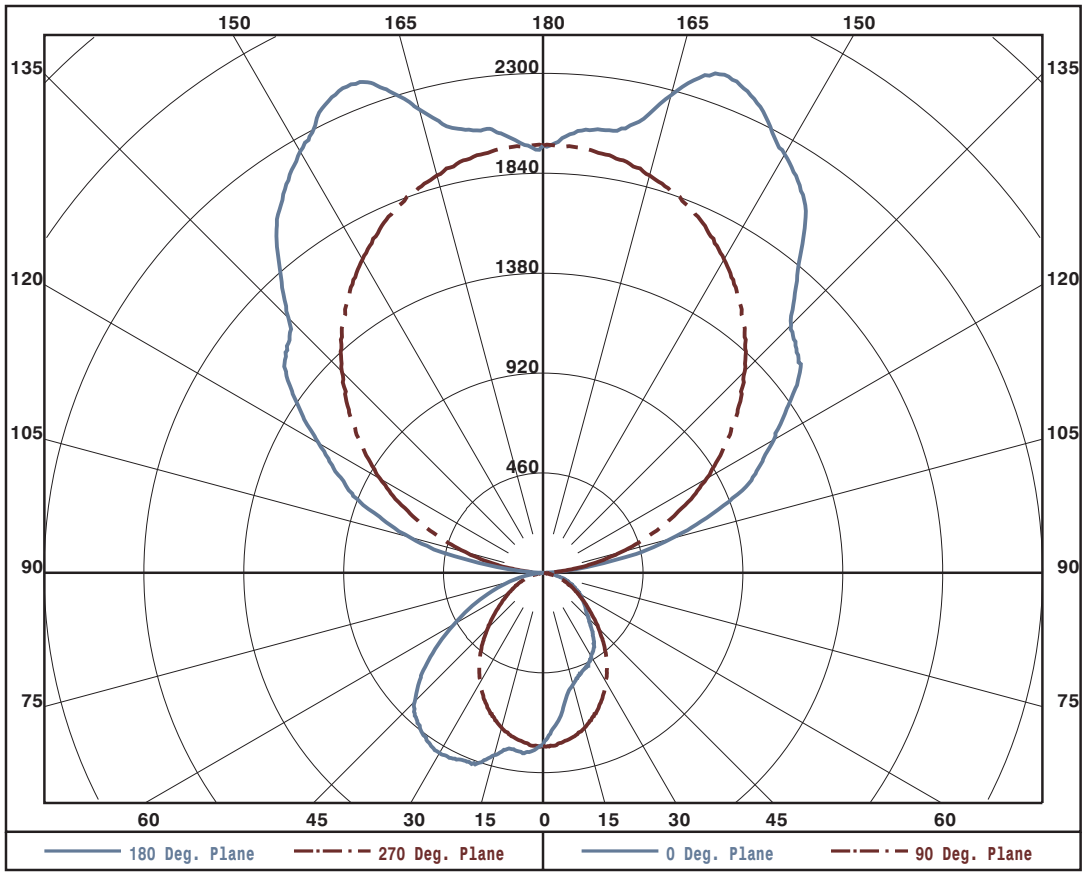
ZONAL LUMEN SUMMARY

0- 5	19.
5- 10	55.
10- 15	86.
15- 20	116.
20- 25	143.
25- 30	167.
30- 35	184.
35- 40	196.
40- 45	200.
45- 50	195.
50- 55	183.
55- 60	162.
60- 65	137.
65- 70	108.
70- 75	79.
75- 80	49.
80- 85	24.
85- 90	5.
90- 95	16.
95-100	118.
100-105	245.
105-110	346.
110-115	431.
115-120	508.
120-125	567.
125-130	611.
130-135	635.
135-140	651.
140-145	640.
145-150	600.
150-155	537.
155-160	456.
160-165	350.
165-170	243.
170-175	145.
175-180	47.

PLANE:	0-DEG	90-DEG
LUMINOUS LENGTH:	2.875	48.000

LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	8861.	8861.	8861.
45	4638.	5178.	5686.
55	4386.	4249.	4445.
65	4305.	3800.	3614.
75	4079.	3298.	2604.
85	3350.	2320.	1289.



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0	789	789	789	789	789	789	789	789	789
5	700	705	729	756	788	810	826	828	828
10	594	615	664	706	770	811	830	827	825
15	534	537	576	655	740	803	817	863	871
20	498	501	513	589	697	779	842	923	937
25	477	474	482	515	643	743	872	930	948
30	443	446	459	449	579	709	865	938	957
35	404	405	428	403	508	681	842	925	934
40	347	354	381	375	433	647	814	885	897
45	292	296	326	348	358	605	771	834	835
50	255	249	270	307	288	552	711	746	734
55	224	215	217	252	227	491	629	635	606
60	195	184	177	194	178	420	533	507	477
65	162	152	143	143	136	347	419	384	360
70	127	117	109	100	96	262	302	274	254
75	94	84	76	65	60	170	196	179	164
80	56	50	44	35	31	91	107	99	88
85	26	22	18	12	10	31	36	34	26
90	11	11	9	3	1	2	2	2	7
95	75	161	135	121	112	117	128	141	92
100	199	338	386	377	351	367	374	338	225
105	360	522	600	623	625	619	606	514	383
110	530	688	776	851	856	854	793	688	550
115	694	936	967	1015	1052	1025	967	882	714
120	861	1170	1163	1193	1210	1198	1166	1149	878
125	1010	1377	1285	1388	1395	1386	1280	1365	1025
130	1160	1596	1540	1506	1542	1503	1498	1578	1180
135	1304	1759	1778	1667	1638	1657	1763	1766	1324
140	1434	1832	1947	1920	1861	1901	1942	1887	1454
145	1552	1848	2122	2101	2096	2096	2112	1920	1566
150	1658	1868	2253	2235	2232	2237	2258	1913	1675
155	1756	1914	2260	2366	2373	2369	2302	1919	1770
160	1837	1970	2150	2368	2422	2386	2201	1962	1845
165	1897	2002	2074	2175	2244	2207	2081	2004	1894
170	1937	1988	2077	2074	2076	2073	2068	2014	1937
175	1966	1972	2021	2034	2034	2042	2032	1991	1966
180	1968	1968	1968	1968	1968	1968	1968	1968	1968

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	71	71	71	71	63	63	63	63	48	48	48	34	34	34	22	22	22	16
1	64	62	59	57	57	55	53	51	42	41	39	30	29	29	19	19	19	14
2	59	54	50	46	52	48	45	42	37	35	33	27	25	24	17	17	16	12
3	54	47	43	39	47	42	38	35	33	30	28	24	22	20	15	14	14	10
4	49	42	37	33	43	37	33	30	29	26	23	21	19	18	14	13	12	9
5	45	37	32	28	40	33	29	25	26	22	20	19	17	15	12	11	10	7
6	41	33	28	24	36	30	25	22	23	20	17	17	15	13	11	10	9	6
7	38	30	24	21	33	26	22	19	21	17	15	15	13	11	10	9	8	6
8	35	27	21	18	31	24	19	16	19	15	13	14	11	10	9	8	7	5
9	32	24	19	16	29	22	17	14	17	14	11	12	10	9	8	7	6	4
10	30	22	17	14	27	20	15	12	15	12	10	11	9	8	7	6	5	4

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.