LTL LUMINAIRE TESTING LABORATORY, INC.

IES SUSTAINING MEMBER

905 Harrison Street · Allentown, PA 18103 · (610) 770-1044 · Fax (610) 770-8912 · www.LuminaireTesting.com

LTL NUMBER: 07110 DATE: 11-22-2002
PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING
CATALOG NUMBER: AR9300 1LP-D/I-4-WM-OP/PB-X-120-T8
LUMINAIRE: EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTORS BESIDE LAMP, 12 CELL, 1 1/2" DEEP, FORMED SEMI-SPECULAR ALUMINUM LOUVER BELOW LAMP, OPEN TOP.
LAMP: ONE PHILIPS F32T8/TL841 RATED AT 2850 LUMENS.
BALLAST: ONE ADVANCE REL-1P32-SC
MOUNTING: WALL
LUMEN TO CANDELA RATIO USED = 9.18
TOTAL INPUT WATTS = 32.3 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	406	406	406	406	406	406	406	406	406	
5	493	477	460	430	402	377	360	352	352	40
15	655	632	570	473	381	327	331	316	308	123
25	647	640	611	498	344	295	229	167	150	183
35	422	452	530	485	296	231	114	60	69	191
45	317	325	329	398	234	132	79	234	290	196
55	103	127	215	259	163	62	187	262	302	164
65	59	76	57	99	65	37	100	142	140	80
75	8	8	8	10	9	9	14	16	16	11
85	3	1	3	5	4	5	5	4	3	4
90	0	0	0	0	0	0	0	0	0	
95	16	17	18	43	13	13	3	4	5	23
105	239	277	309	184	57	76	194	164	154	185
115	533	495	381	179	112	89	160	266	298	259
125	522	458	319	242	172	150	133	171	204	226
135	416	369	334	310	229	219	186	180	181	205
145	394	396	385	344	275	280	249	232	231	193
155	431	431	416	361	310	318	310	290	290	162
165	429	416	395	352	335	342	344	344	346	103
175	364	356	354	353	352	353	353	352	354	34
180	353	353	353	353	353	353	353	353	353	

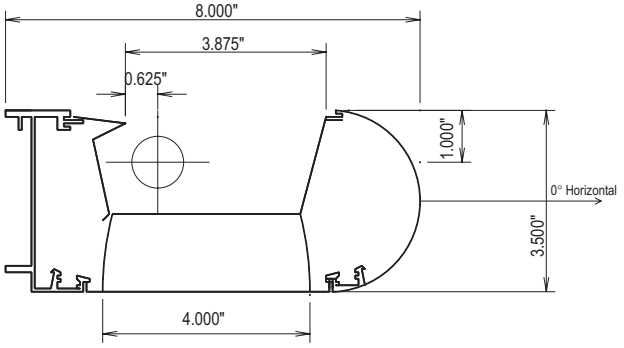
ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	346	12.1	14.5
0- 40	537	18.8	22.5
0- 60	898	31.5	37.7
0- 90	992	34.8	41.6
90-120	467	16.4	19.6
90-130	693	24.3	29.1
90-150	1091	38.3	45.8
90-180	1390	48.8	58.4
0-180	2383	83.6	100.0

TOTAL LUMINAIRE EFFICIENCY: 83.6%
CIE TYPE: GENERAL DIFFUSE

PLANE:	0-DEG	90-DEG	180-DEG
SPACING CRITERIA:	1.5	1.2	0.7
SHIELDING ANGLES:	32	21	65

#07110



TESTED BY HERSCHEL SCHRECK
CHECKED BY MIKE GRATHER

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

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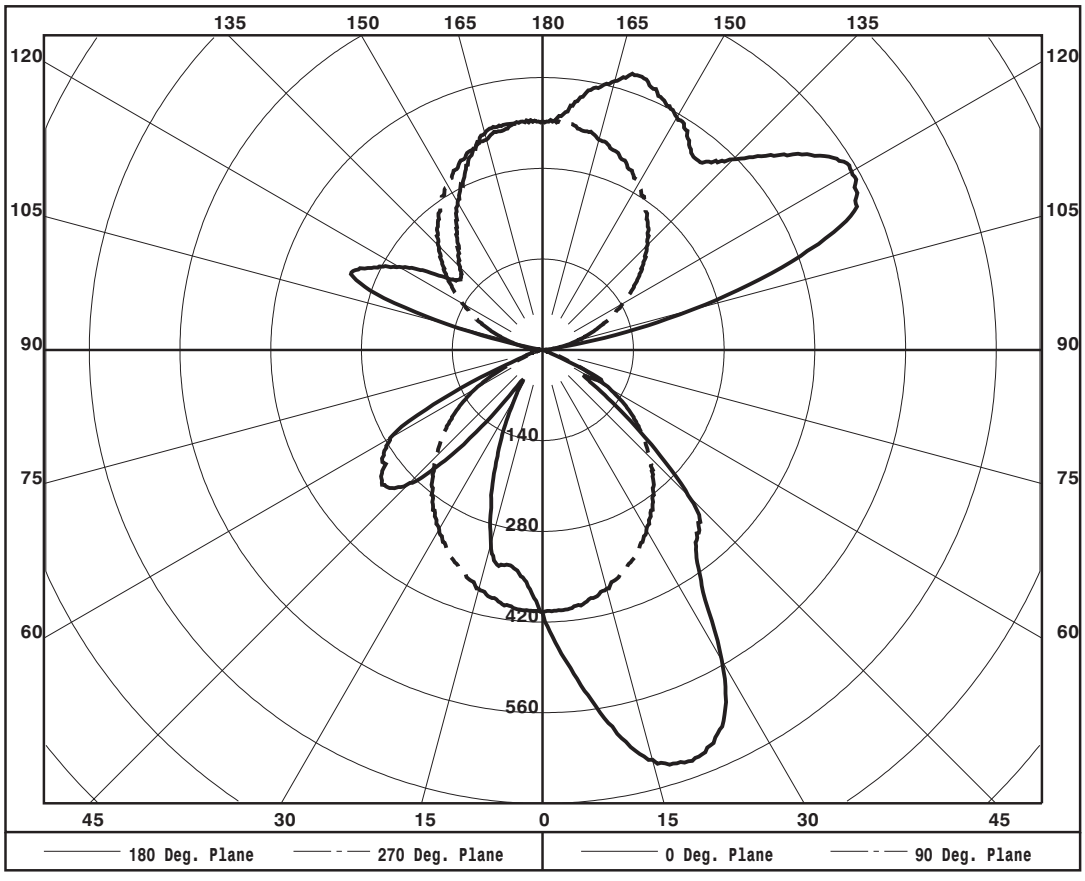
ZONAL LUMEN SUMMARY

0- 5	10.
5- 10	30.
10- 15	52.
15- 20	72.
20- 25	87.
25- 30	96.
30- 35	96.
35- 40	95.
40- 45	98.
45- 50	98.
50- 55	91.
55- 60	74.
60- 65	56.
65- 70	23.
70- 75	7.
75- 80	4.
80- 85	3.
85- 90	1.
90- 95	2.
95-100	21.
100-105	70.
105-110	115.
110-115	132.
115-120	127.
120-125	117.
125-130	108.
130-135	104.
135-140	102.
140-145	99.
145-150	95.
150-155	87.
155-160	75.
160-165	60.
165-170	43.
170-175	26.
175-180	8.

PLANE:	0-DEG	90-DEG
LUMINOUS LENGTH:	4.000	48.000

LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	3277.	3277.	3277.
45	3619.	3756.	2671.
55	1450.	3026.	2294.
65	1127.	1089.	1242.
75	250.	250.	281.
85	278.	278.	370.



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	0.0	22.5	45.0	67.5	90.0	112.5	135.0	157.5	180.0
0	406	406	406	406	406	406	406	406	406
5	493	477	460	430	402	377	360	352	352
10	584	557	516	454	394	351	337	336	337
15	655	632	570	473	381	327	331	316	308
20	675	656	609	488	365	311	296	242	228
25	647	640	611	498	344	295	229	167	150
30	553	580	584	499	321	271	169	102	82
35	422	452	530	485	296	231	114	60	69
40	370	366	435	451	266	182	73	136	190
45	317	325	329	398	234	132	79	234	290
50	196	229	274	336	200	92	150	280	324
55	103	127	215	259	163	62	187	262	302
60	86	73	124	178	119	46	163	220	273
65	59	76	57	99	65	37	100	142	140
70	7	9	30	28	20	16	37	36	32
75	8	8	8	10	9	9	14	16	16
80	7	6	7	8	8	7	8	8	8
85	3	1	3	5	4	5	5	4	3
90	0	0	0	0	0	0	0	0	0
95	16	17	18	43	13	13	3	4	5
100	66	96	141	159	32	85	60	20	16
105	239	277	309	184	57	76	194	164	154
110	424	443	375	173	84	69	194	289	300
115	533	495	381	179	112	89	160	266	298
120	551	499	350	209	144	115	125	223	256
125	522	458	319	242	172	150	133	171	204
130	466	408	306	276	201	185	157	157	169
135	416	369	334	310	229	219	186	180	181
140	378	368	362	332	252	251	216	202	205
145	394	396	385	344	275	280	249	232	231
150	414	413	412	354	294	301	281	261	263
155	431	431	416	361	310	318	310	290	290
160	448	438	407	356	327	331	335	322	320
165	429	416	395	352	335	342	344	344	346
170	406	388	373	352	344	348	350	350	352
175	364	356	354	353	352	353	353	352	354
180	353	353	353	353	353	353	353	353	353

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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	88	88	88	88	80	80	80	80	66	66	66	53	53	53	40	40	40	35
1	81	78	75	72	74	71	69	67	59	57	56	48	46	45	37	36	36	31
2	74	69	64	60	68	63	59	56	53	50	47	43	41	39	34	33	32	27
3	68	61	56	51	62	56	52	48	47	44	41	38	36	34	31	29	28	24
4	63	54	48	44	57	50	45	41	42	38	35	35	32	30	28	26	24	21
5	58	48	42	37	53	45	39	35	38	33	30	31	28	26	25	23	21	18
6	53	43	37	32	48	40	34	30	34	30	26	28	25	22	22	20	19	16
7	49	39	33	28	45	36	30	26	30	26	23	25	22	20	20	18	16	14
8	45	35	29	25	41	32	27	23	27	23	20	23	20	17	18	16	14	12
9	42	32	26	21	38	29	24	20	25	21	18	21	17	15	17	14	12	11
10	39	29	23	19	35	27	21	18	23	18	16	19	16	13	15	13	11	9

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.

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.

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INITIAL ILLUMINATION OF 50 FOOTCANDLES USING LTL TEST NUMBER 07110
LUMINAIRE SUSPENSION LENGTH = 1.5
WORKING PLANE HEIGHT = 2.50
FLOOR REFLECTANCE = 20

ROOM HT		8				9				10				12			
CEIL RF		80		70		80		70		80		70		80		70	
WALL RF		70	50	50	30	70	50	50	30	70	50	50	30	70	50	50	30
WIDTH	LENGTH																
10.	10.	3	4	4	4	4	4	4	5	4	5	5	6	4	5	6	7
10.	15.	4	5	5	6	5	5	6	6	5	6	6	7	6	7	8	9
15.	20.	8	8	9	10	8	9	10	11	9	10	10	11	9	11	12	13
15.	30.	11	12	13	14	12	13	14	15	12	13	15	16	13	15	16	18
20.	20.	10	11	12	12	10	11	12	13	11	12	13	14	12	13	14	16
20.	30.	14	15	16	17	15	16	17	18	15	17	18	19	16	18	20	22
20.	40.	19	20	21	22	19	21	22	24	20	21	23	25	21	23	25	28
20.	60.	27	29	31	33	28	30	32	34	29	31	34	36	30	34	36	39
30.	30.	21	22	24	25	21	22	24	26	22	23	25	27	23	25	27	30
30.	40.	27	28	31	32	27	29	32	33	28	30	33	35	30	32	35	38
30.	50.	33	35	38	39	34	36	39	41	35	37	40	42	36	39	43	46
30.	60.	39	41	45	46	40	42	46	48	41	44	47	50	43	46	50	54
60.	60.	76	78	86	88	77	80	87	90	78	82	89	92	81	85	93	97
60.	80.	101	103	113	115	102	105	115	118	103	107	117	121	106	111	121	126
60.	100.	126	128	140	143	127	130	142	146	128	132	145	149	131	137	150	155
100.	100.	207	210	230	233	208	212	232	236	210	215	235	240	213	220	241	248

QUANTITY OF LUMINAIRES