



LUMINAIRE TESTING LABORATORY, INC.



SUSTAINING
MEMBER

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

LTL NUMBER: 07213

DATE: 01-30-2003

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: TRSO4-PP4-4-PB-120-T8

LUMINAIRE: EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTORS
BESIDE LAMPS, 12 CELL, 1 1/2" DEEP, FORMED SEMI-SPECULAR
ALUMINUM LOUVER BELOW LAMPS, CLEAR POLYCARBONATE ENCLOSURE
WITH LAMINATED PERFORATED SPECULAR LAYER ABOVE LAMPS.

LAMPS: FOUR PHILIPS F32T8/TL841 RATED AT 2850 LUMENS EACH.

BALLAST: ONE ADVANCE RCN-4P32-SC

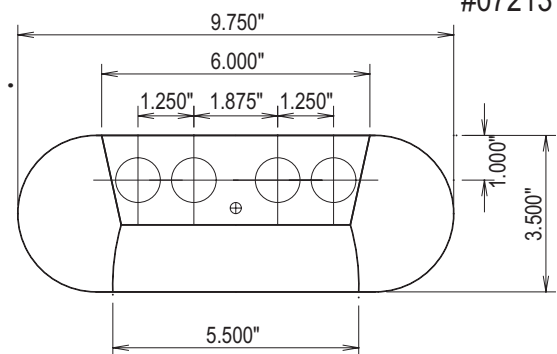
MOUNTING: PENDENT

LUMEN TO CANDELA RATIO USED = 9.18

TOTAL INPUT WATTS = 102.9 AT 120.0 VOLTS

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

#07213



CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1607	1607	1607	1607	1607
5	1599	1605	1623	1629	1638
15	1521	1581	1671	1691	1703
25	1391	1509	1579	1654	1685
35	1204	1333	1454	1484	1517
45	975	1120	1190	1239	1295
55	700	835	890	1012	1059
65	275	356	451	505	535
75	31	34	42	44	42
85	7	7	8	8	7
90	3	6	6	7	7
95	18	27	29	29	30
105	143	197	205	202	198
115	346	433	486	497	493
125	546	625	716	752	759
135	722	782	875	929	945
145	868	919	971	1023	1041
155	983	1020	1050	1070	1079
165	1056	1076	1102	1110	1113
175	1093	1091	1102	1105	1106
180	1090	1090	1090	1090	1090

FLUX

155
464
725
883
906
802
420
53
10
34
207
454
613
659
605
481
309
105

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	1344	11.8	17.0
0- 40	2227	19.5	28.2
0- 60	3936	34.5	49.9
0- 90	4420	38.8	56.0
90-120	695	6.1	8.8
90-130	1308	11.5	16.6
90-150	2573	22.6	32.6
90-180	3468	30.4	44.0
0-180	7888	69.2	100.0

TOTAL LUMINAIRE EFFICIENCY:

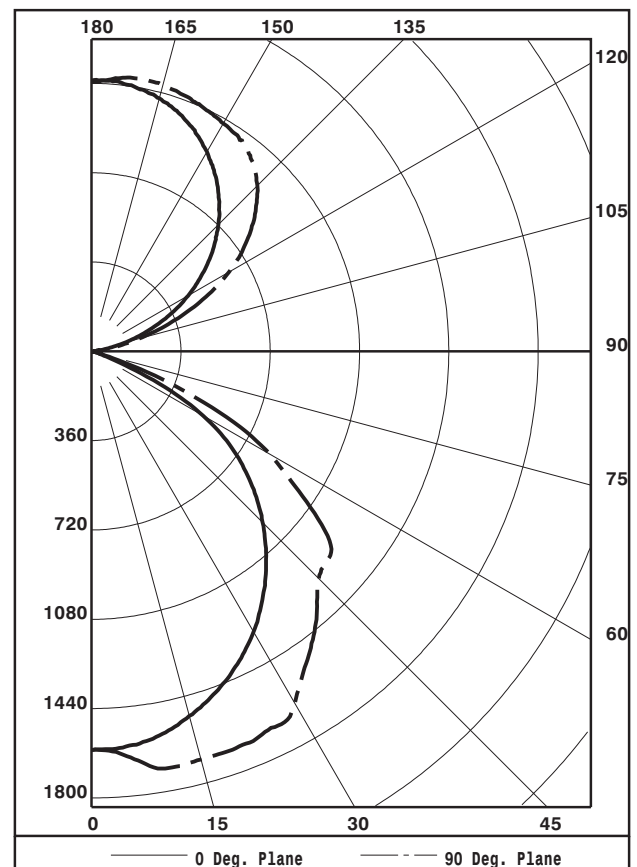
69.2%

CIE TYPE: GENERAL DIFFUSE

PLANE: 0-DEG 90-DEG

SPACING CRITERIA: 1.2 1.4

SHIELDING ANGLES: 21 21



TESTED BY HERSCHEL SCHRECK

CHECKED BY MIKE GRATHER

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



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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	75	75	75	75	70	70	70	70	60	60	60	51	51	51	43	43	43	39
1	69	67	64	62	65	62	60	58	54	52	51	46	45	44	39	38	38	34
2	64	59	55	52	59	55	52	49	48	46	44	41	40	38	35	34	33	30
3	59	53	48	44	55	49	45	42	43	40	37	37	35	33	32	30	29	26
4	54	47	42	38	50	44	39	36	38	35	32	33	31	29	29	27	25	23
5	49	42	36	32	46	39	34	31	34	30	28	30	27	25	26	23	22	20
6	45	37	32	28	42	35	30	26	31	27	24	27	24	21	23	21	19	17
7	42	33	28	24	39	31	26	23	28	24	21	24	21	19	21	18	16	15
8	38	30	24	21	36	28	23	20	25	21	18	22	18	16	19	16	14	13
9	35	27	22	18	33	25	20	17	22	18	16	19	16	14	17	14	12	11
10	33	24	19	16	30	23	18	15	20	16	14	18	14	12	15	13	11	10

PLANE: 0-DEG 90-DEG
LUMINOUS LENGTH: 48.000 5.500

LUMINANCE IN CANDELA PER SQUARE METER

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
0	9434.	9434.	9434.
45	8095.	9880.	10752.
55	7165.	9110.	10839.
65	3820.	6265.	7432.
75	703.	953.	953.
85	472.	539.	472.



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	0.0	22.5	45.0	67.5	90.0
0	1607	1607	1607	1607	1607
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10	1572	1600	1662	1698	1708
15	1521	1581	1671	1691	1703
20	1463	1561	1625	1676	1702
25	1391	1509	1579	1654	1685
30	1305	1429	1526	1620	1638
35	1204	1333	1454	1484	1517
40	1093	1232	1338	1368	1410
45	975	1120	1190	1239	1295
50	845	985	1045	1145	1261
55	700	835	890	1012	1059
60	519	622	728	762	831
65	275	356	451	505	535
70	65	97	190	209	209
75	31	34	42	44	42
80	17	17	18	20	20
85	7	7	8	8	7
90	3	6	6	7	7
95	18	27	29	29	30
100	61	88	92	91	89
105	143	197	205	202	198
110	240	318	348	344	342
115	346	433	486	497	493
120	449	536	609	636	640
125	546	625	716	752	759
130	639	707	805	848	859
135	722	782	875	929	945
140	800	852	924	987	1005
145	868	919	971	1023	1041
150	930	975	1013	1047	1061
155	983	1020	1050	1070	1079
160	1023	1053	1082	1092	1097
165	1056	1076	1102	1110	1113
170	1076	1087	1108	1114	1116
175	1093	1091	1102	1105	1106
180	1090	1090	1090	1090	1090

ZONAL LUMEN SUMMARY

0- 5	38.
5- 10	117.
10- 15	196.
15- 20	268.
20- 25	334.
25- 30	391.
30- 35	430.
35- 40	453.
40- 45	457.
45- 50	449.
50- 55	432.
55- 60	371.
60- 65	278.
65- 70	142.
70- 75	39.
75- 80	15.
80- 85	7.
85- 90	3.
90- 95	7.
95-100	27.
100-105	72.
105-110	135.
110-115	199.
115-120	255.
120-125	294.
125-130	319.
130-135	330.
135-140	329.
140-145	315.
145-150	291.
150-155	259.
155-160	222.
160-165	178.
165-170	130.
170-175	79.
175-180	26.

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 07213

LUMINAIRE SUSPENSION LENGTH = 1.5

WORKING PLANE HEIGHT = 2.50

FLOOR REFLECTANCE = 20

ROOM HT CEIL RF WALL RF	ROOM HT CEIL RF WALL RF	8				9				10				12			
		80		70		80		70		80		70		80		70	
		70	50	50	30	70	50	50	30	70	50	50	30	70	50	50	30
WIDTH	LENGTH																
10.	10.	1	1	1	2	1	2	2	2	1	2	2	2	2	2	2	2
10.	15.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
15.	20.	3	3	3	3	3	3	3	3	3	3	3	4	3	4	4	4
15.	30.	4	4	4	4	4	4	4	5	4	4	5	5	4	5	5	6
20.	20.	3	3	4	4	3	4	4	4	3	4	4	4	4	4	4	5
20.	30.	5	5	5	5	5	5	5	6	5	5	6	6	5	6	6	7
20.	40.	6	6	6	7	6	6	7	7	6	7	7	7	6	7	8	8
20.	60.	8	9	9	10	9	9	10	10	9	9	10	11	9	10	11	12
30.	30.	6	7	7	7	7	7	7	8	7	7	8	8	7	8	8	9
30.	40.	8	9	9	9	8	9	9	10	9	9	10	10	9	10	10	11
30.	50.	10	10	11	12	10	11	11	12	10	11	12	12	11	12	13	13
30.	60.	12	12	13	14	12	13	14	14	12	13	14	15	13	14	15	16
60.	60.	23	23	25	25	23	24	25	26	23	24	26	27	24	25	27	28
60.	80.	30	30	33	33	30	31	33	34	31	32	34	35	31	33	35	36
60.	100.	37	38	41	41	37	38	41	42	38	39	42	43	39	40	43	45
100.	100.	61	62	66	67	61	62	67	68	62	63	68	69	63	65	69	71

QUANTITY OF LUMINAIRES