

REPORT NUMBER: ITL70248

PAGE: 1 OF 6

ISSUE DATE: 11/01/11

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: LTS-03-X-4-X-OP/PB-X-120-T5

LUMINAIRE: EXTRUDED SEMI-DIFFUSE METAL HOUSING WITH FABRICATED SEMI-DIFFUSE METAL END CAPS, TWO FORMED METAL SIDE REFLECTORS WITH PREMIUM SPECULAR FINISH, FABRICATED SEMI-SPECULAR METAL PARABOLIC 29-CELL LOUVER. OPEN TOP.

LAMPS: THREE 28-WATT T-5 SYLVANIA FP28/841/ECO LINEAR FLUORESCENTS.

BALLASTS: TWO UNIVERSAL B228PUNV-C

MOUNTING: SUSPENDED

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

TOTAL INPUT WATTS = 95.9 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED = 9.17

REPORT IS BASED ON 2600 LUMENS PER LAMP. *

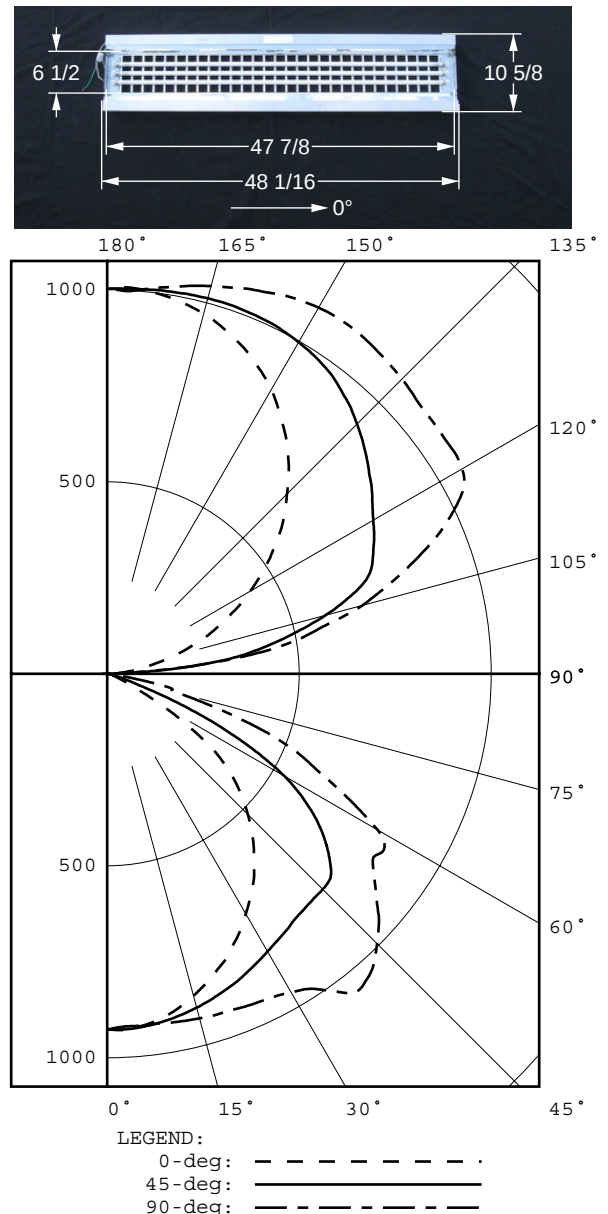
CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	926	926	926	926	926	
5	923	926	925	921	920	88
15	868	878	900	920	929	254
25	778	804	859	916	942	397
35	664	711	815	928	1007	517
45	518	607	794	932	994	595
55	322	480	667	763	844	553
65	61	120	322	515	614	328
75	13	20	32	122	190	85
85	1	3	4	7	12	8
90	0	0	0	0	0	
95	40	187	216	237	208	204
105	180	390	589	667	688	544
115	345	514	765	957	992	713
125	513	642	841	1005	1071	735
135	662	764	920	1040	1086	695
145	796	864	981	1070	1104	606
155	901	941	1008	1064	1088	463
165	971	985	1012	1035	1045	286
175	1005	1006	1005	1004	1004	96
180	1003	1003	1003	1003	1003	

ZONAL LUMEN SUMMARY			
ZONE	LUMENS	%LAMP	%FIXT
0- 30	739	9.5	10.3
0- 40	1257	16.1	17.5
0- 60	2404	30.8	33.6
0- 90	2824	36.2	39.4
90-120	1460	18.7	20.4
90-130	2195	28.1	30.6
90-150	3496	44.8	48.8
90-180	4341	55.7	60.6
0-180	7165	91.9	100.0

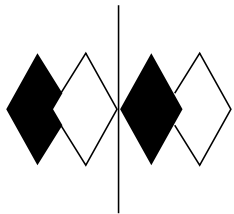
TOTAL LUMINAIRE EFFICIENCY = 91.9 % *

CIE TYPE - SEMI-INDIRECT
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 27 14

* SEE ADDENDUM FOR FURTHER INFORMATION



CheckedS. BERGIN.....
ApprovedR. BEATTIE.....
Lighting Engineer



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PAGE: 2 OF 6

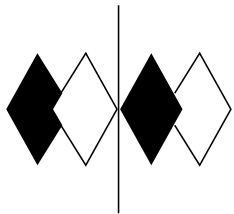
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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 44.125 5.500

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	4679.	7172.	8978.
55	3586.	7427.	9398.
65	922.	4866.	9279.
75	321.	790.	4689.
85	73.	293.	879.



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PAGE: 3 OF 6

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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	926	926	926	926	926
5.0	923	926	925	921	920
10.0	903	907	915	920	923
15.0	868	878	900	920	929
20.0	826	842	881	918	933
25.0	778	804	859	916	942
30.0	722	760	835	915	958
35.0	664	711	815	928	1007
40.0	594	659	799	976	1046
45.0	518	607	794	932	994
50.0	434	555	757	853	916
55.0	322	480	667	763	844
60.0	165	319	533	696	813
65.0	61	120	322	515	614
70.0	27	44	100	311	432
75.0	13	20	32	122	190
80.0	5	9	13	25	72
85.0	1	3	4	7	12
90.0	0	0	0	0	0
95.0	40	187	216	237	208
100.0	102	326	427	483	498
105.0	180	390	589	667	688
110.0	265	450	718	823	847
115.0	345	514	765	957	992
120.0	430	576	800	996	1067
125.0	513	642	841	1005	1071
130.0	593	705	881	1020	1073
135.0	662	764	920	1040	1086
140.0	734	818	954	1058	1096
145.0	796	864	981	1070	1104
150.0	855	906	997	1072	1101
155.0	901	941	1008	1064	1088
160.0	939	967	1012	1050	1067
165.0	971	985	1012	1035	1045
170.0	992	998	1009	1019	1023
175.0	1005	1006	1005	1004	1004
180.0	1003	1003	1003	1003	1003



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PAGE: 4 OF 6

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5-DEGREE

ZONAL LUMEN SUMMARY

0- 5	22.
5- 10	66.
10- 15	108.
15- 20	147.
20- 25	183.
25- 30	215.
30- 35	244.
35- 40	273.
40- 45	294.
45- 50	300.
50- 55	290.
55- 60	263.
60- 65	204.
65- 70	124.
70- 75	60.
75- 80	24.
80- 85	6.
85- 90	1.
90- 95	43.
95-100	161.
100-105	241.
105-110	302.
110-115	346.
115-120	367.
120-125	370.
125-130	365.
130-135	355.
135-140	340.
140-145	318.
145-150	288.
150-155	252.
155-160	211.
160-165	166.
165-170	120.
170-175	72.
175-180	24.

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	88.
0- 20	342.
0- 30	739.
0- 40	1257.
0- 50	1851.
0- 60	2404.
0- 70	2732.
0- 80	2816.
0- 90	2824.
0-100	3028.
0-110	3571.
0-120	4284.
0-130	5019.
0-140	5714.
0-150	6320.
0-160	6783.
0-170	7069.
0-180	7165.



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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	96	96	96	96	87	87	87	87	71	71	71	56	56	56	43	43	43	36
1	88	84	81	78	80	77	74	71	63	61	59	50	49	47	38	37	37	31
2	80	74	68	64	73	67	63	59	55	52	49	44	42	40	34	32	31	26
3	73	65	58	53	66	59	53	49	49	44	41	39	36	34	30	28	26	22
4	67	57	50	44	60	52	46	41	43	38	35	34	31	29	26	24	22	19
5	61	51	43	38	55	46	40	35	38	33	30	31	27	25	24	21	19	16
6	56	45	38	33	51	41	35	30	34	29	26	28	24	21	21	19	17	14
7	52	41	33	28	47	37	31	26	31	26	22	25	21	19	19	17	15	12
8	48	37	30	25	43	34	27	23	28	23	20	23	19	16	18	15	13	11
9	44	33	27	22	40	31	25	20	26	21	18	21	17	15	16	14	12	10
10	41	30	24	20	38	28	22	18	23	19	16	19	16	13	15	12	11	9

ALL CANDELA, LUMENS, LUMINANCE, COEFFICIENT OF UTILIZATION AND VCP VALUES IN THIS REPORT ARE BASED ON RELATIVE PHOTOMETRY WHICH ASSUMES A BALLAST FACTOR OF 1.000. ANY CALCULATIONS PREPARED FROM THESE DATA SHOULD INCLUDE AN APPROPRIATE BALLAST FACTOR.



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ADDENDUM

SPECIAL TEST PROCEDURES FOR T-5 LAMPS INCLUDING EXPLANATION OF THE IMPORTANCE OF LAMP LUMEN RATINGS.

This test was performed using standard relative photometric practices in accordance with recommendations of the Illuminating Engineering Society of North America. Fluorescent testing using the guidelines of relative photometric practice presupposes that the lamps will be operated at their nominal electrical characteristics (e.g., a 40 watt lamp will operate very nearly at 40 watts, and at the voltage and current required for 40-watt operation). Fluorescent lamps in general are temperature sensitive, the lumen output varies with ambient temperature and follows a characteristic curve. The T-5 fluorescent lamps used in this test produce maximum light output in an ambient temperature other than 25 degrees C. A critical step in relative photometric testing involves measurement of the total flux output from the lamp(s) suspended in free air at a 25 degree C ambient temperature per IES LM41-1998. This measurement process is a separate step from the photometric exploration of the luminaire itself. This "bare lamp" measurement is made with the lamp(s) operated by the same ballast(s) which are to be used in the luminaire. Since the test procedure involves measuring the bare lamp flux output at 25 degrees C and this lamp type peaks at a temperature other than 25 degrees C, the flux measured for this lamp type will be less than the maximum output the lamp is designed to produce.

As a result, the measurement of the "bare lamp" total flux output is lower than it would be if the lamps were operated at their optimum operating temperature and at nominal electrical characteristics. When this "bare lamp" measurement is incorporated into the luminaire test report, the net effect is that total luminaire efficiency on the report is higher than what the lighting industry would expect this luminaire to produce. These lighting industry expectations are based on comparisons to the total luminaire efficiency of the same luminaire with T-12 or T-8 lamps.

On this particular test, the lamp lumen rating shown is for a 25 degree C ambient temperature. Since this report was based the lumen lamp lumen rating at 25 degrees C, the candela values in this report should be accurate, as long as the lamp(s) used for this test follow the manufacturer's light output vs. temperature curve.

T5TEMP3.DIS