

REPORT NUMBER: ITL70222

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PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: 907D-02-X-4-X-PB-X-120-T5

LUMINAIRE: EXTRUDED SEMI-DIFFUSE METAL HOUSING WITH CAST DIFFUSE METAL
END CAPS, FORMED TWO-PIECE WHITE-PAINTED METAL REFLECTOR,
FABRICATED SEMI-SPECULAR METAL PARABOLIC 32-CELL LOUVER.

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

BALLAST: UNIVERSAL B228PUNV-C

MOUNTING: SUSPENDED

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

TOTAL INPUT WATTS = 59.4 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED = 9.17

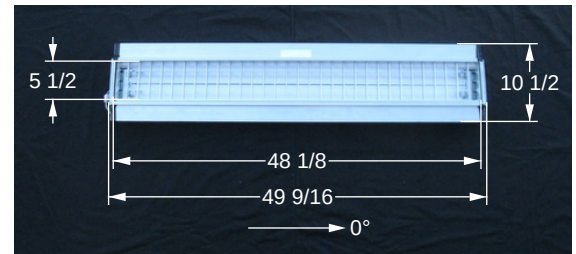
REPORT IS BASED ON 2600 LUMENS PER LAMP. *

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	1417	1417	1417	1417	1417
5	1414	1417	1418	1413	1414
15	1344	1360	1399	1429	1437
25	1224	1269	1336	1411	1441
35	1061	1137	1252	1336	1379
45	838	957	1068	1102	1140
55	531	676	766	822	911
65	80	125	333	560	692
75	17	23	32	103	153
85	2	2	4	5	8
90	0	0	0	0	0

FLUX

135
394
617
771
792
662
353
74
7



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	1146	22.0	30.1
0- 40	1917	36.9	50.4
0- 60	3370	64.8	88.6
0- 90	3803	73.1	100.0
90-180	0	0.0	0.0
0-180	3803	73.1	100.0

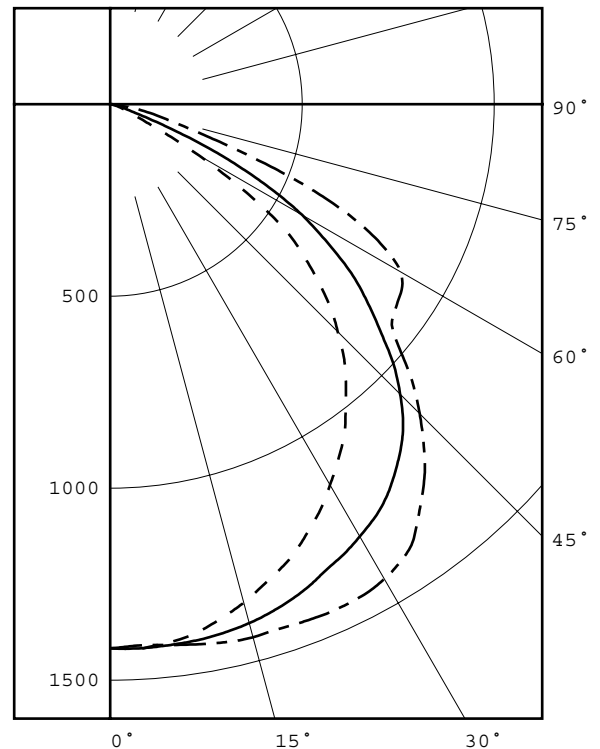
TOTAL LUMINAIRE EFFICIENCY = 73.1 % *

CIE TYPE - DIRECT

PLANE	: 0-DEG	90-DEG
SPACING CRITERIA	: 1.21	1.47
SHIELDING ANGLES	: 28	16
LUMINOUS LENGTH	: 48.125	5.500

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	6940.	8845.	9441.
55	5421.	7821.	9301.
65	1109.	4614.	9589.
75	385.	724.	3462.
85	134.	269.	538.



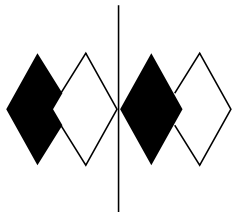
LEGEND:

0-deg:	-----
45-deg:	—————
90-deg:	-----

* SEE ADDENDUM FOR FURTHER INFORMATION

Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer



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THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

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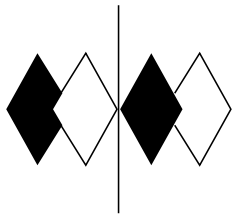
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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	1417	1417	1417	1417	1417
2.5	1420	1420	1419	1412	1412
5.0	1414	1417	1418	1413	1414
7.5	1405	1408	1416	1417	1420
10.0	1389	1395	1413	1422	1427
12.5	1367	1378	1407	1427	1434
15.0	1344	1360	1399	1429	1437
17.5	1316	1340	1388	1423	1435
20.0	1290	1318	1374	1419	1438
22.5	1261	1295	1357	1415	1441
25.0	1224	1269	1336	1411	1441
27.5	1188	1239	1320	1401	1438
30.0	1145	1209	1300	1387	1428
32.5	1103	1171	1279	1364	1410
35.0	1061	1137	1252	1336	1379
37.5	1007	1098	1216	1296	1325
40.0	955	1053	1176	1236	1273
42.5	902	1009	1129	1174	1209
45.0	838	957	1068	1102	1140
47.5	775	905	1000	1033	1066
50.0	699	841	918	957	980
52.5	623	767	843	877	925
55.0	531	676	766	822	911
57.5	397	565	671	791	900
60.0	267	405	577	746	873
62.5	142	256	460	678	801
65.0	80	125	333	560	692
67.5	51	70	198	430	541
70.0	34	46	91	295	362
72.5	25	32	48	173	230
75.0	17	23	32	103	153
77.5	11	15	20	50	107
80.0	8	9	13	22	66
82.5	5	5	7	12	19
85.0	2	2	4	5	8
87.5	0	1	2	2	2
90.0	0	0	0	0	0



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5-DEGREE

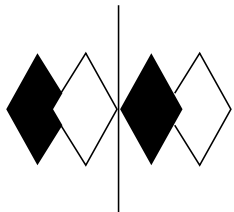
ZONAL LUMEN SUMMARY

0- 5	34.
5- 10	101.
10- 15	166.
15- 20	228.
20- 25	284.
25- 30	333.
30- 35	373.
35- 40	398.
40- 45	403.
45- 50	388.
50- 55	355.
55- 60	307.
60- 65	226.
65- 70	127.
70- 75	53.
75- 80	20.
80- 85	6.
85- 90	1.

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	135.
0- 20	529.
0- 30	1146.
0- 40	1917.
0- 50	2708.
0- 60	3370.
0- 70	3723.
0- 80	3796.
0- 90	3803.
0-100	3803.
0-110	3803.
0-120	3803.
0-130	3803.
0-140	3803.
0-150	3803.
0-160	3803.
0-170	3803.
0-180	3803.



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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	87	87	87	87	85	85	85	85	81	81	81	78	78	78	75	75	75	73
1	81	78	75	73	79	76	74	72	73	71	69	70	69	67	68	67	65	64
2	74	69	64	61	72	68	63	60	65	62	59	63	60	57	61	58	56	55
3	68	61	56	51	66	60	55	51	58	53	50	56	52	49	54	51	48	47
4	62	54	48	44	61	53	48	44	52	47	43	50	46	42	48	45	42	40
5	58	49	42	38	56	48	42	38	46	41	37	45	40	37	44	40	37	35
6	53	44	38	33	52	43	37	33	42	37	33	41	36	32	40	35	32	31
7	49	40	34	29	48	39	33	29	38	33	29	37	32	29	36	32	29	27
8	46	36	30	26	45	36	30	26	35	30	26	34	29	26	33	29	26	24
9	43	33	27	23	42	33	27	23	32	27	23	31	27	23	30	26	23	22
10	40	31	25	21	39	30	25	21	30	25	21	29	24	21	28	24	21	20

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