



itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL58356

DATE: 02/15/07

PREPARED FOR: ELLIPTIPAR

CATALOG NUMBER: 3030-T128-UPLIGHT

LUMINAIRE: EXTRUDED SPECULAR METAL REFLECTOR WITH FABRICATED UNFINISHED METAL END PLATES AND TWO UPLIGHT APERTURES, FABRICATED FOUR-PIECE SEMI-SPECULAR PLASTIC 33-CELL LOUVER.

LAMP: ONE 28-WATT T-5 SYLVANIA FP28/835 LINEAR FLUORESCENT.

BALLAST: ADVANCE ICN-2S28

MOUNTING: SUSPENDED

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMP.

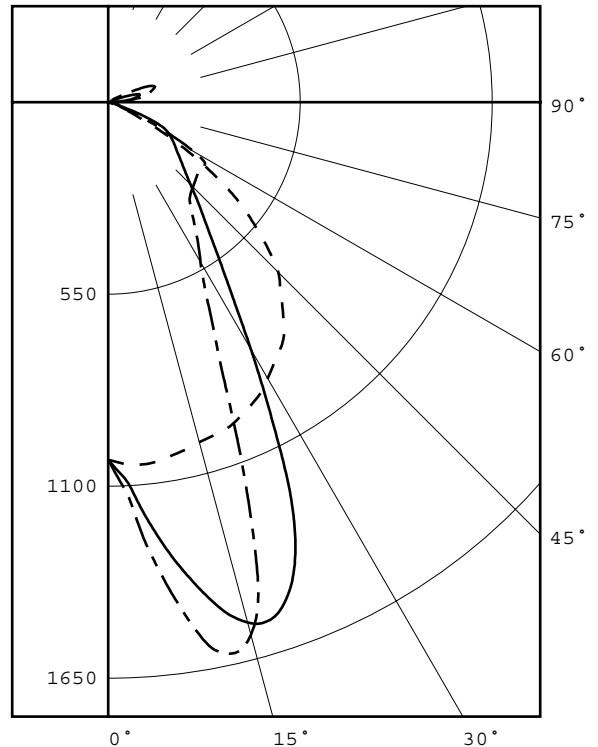
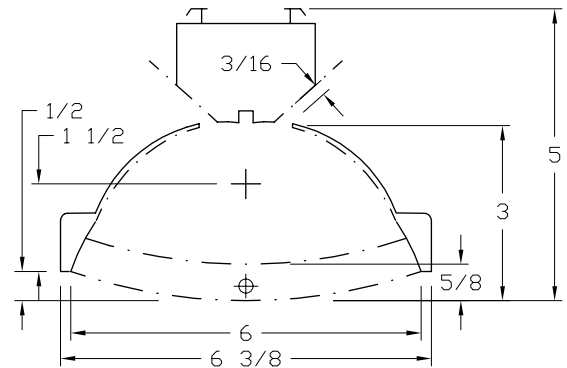
TOTAL INPUT WATTS= 34.9 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED= 9.17

REPORT IS BASED ON 2900 LUMENS PER LAMP. *

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	FLUX
0	1024	1024	1024	1024	1024	
5	1042	1082	1184	1238	1277	116
15	1008	1266	1543	1600	1580	397
25	961	1357	1232	825	712	488
35	861	1115	561	459	432	435
45	689	583	334	326	343	342
55	389	242	239	297	330	257
65	73	90	176	167	122	132
75	5	18	20	38	29	27
85	0	6	13	18	20	13
90	0	8	16	23	25	
95	0	37	48	65	56	48
105	0	2	89	125	130	70
115	0	0	5	32	70	21
125	0	0	0	4	6	2
135	0	0	0	0	0	0
145	0	0	0	0	0	0
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	0



LEGEND:
0-deg: - - - - -
45-deg: = = = = =
90-deg: - - - - -

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	1001	34.5	42.6
0- 40	1436	49.5	61.2
0- 60	2035	70.2	86.7
0- 90	2207	76.1	94.0
90-120	140	4.8	5.9
90-130	141	4.9	6.0
90-150	141	4.9	6.0
90-180	141	4.9	6.0
0-180	2348	81.0	100.0

TOTAL LUMINAIRE EFFICIENCY = 81.0 % *

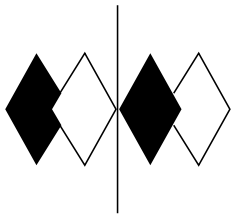
CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.3 0.9
SHIELDING ANGLES : 4 22

Checked B. HYRE

Approved R. BEATTIE

* SEE ADDENDUM FOR FURTHER INFORMATION



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LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	5195.	2376.	2181.
55	3601.	1857.	2294.
65	907.	1631.	1029.
75	99.	256.	332.
85	0.	276.	388.



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	1024	1024	1024	1024	1024
5.0	1042	1082	1184	1238	1277
10.0	1029	1178	1394	1513	1562
15.0	1008	1266	1543	1600	1580
20.0	994	1342	1504	1325	1140
25.0	961	1357	1232	825	712
30.0	914	1287	818	576	529
35.0	861	1115	561	459	432
40.0	778	880	422	369	363
45.0	689	583	334	326	343
50.0	548	377	277	310	331
55.0	389	242	239	297	330
60.0	214	158	211	291	283
65.0	73	90	176	167	122
70.0	22	43	81	49	36
75.0	5	18	20	38	29
80.0	1	5	15	22	22
85.0	0	6	13	18	20
90.0	0	8	16	23	25
95.0	0	37	48	65	56
100.0	0	19	82	105	107
105.0	0	2	89	125	130
110.0	0	0	29	102	136
115.0	0	0	5	32	70
120.0	0	0	2	6	16
125.0	0	0	0	4	6
130.0	0	0	0	1	2
135.0	0	0	0	0	0
140.0	0	0	0	0	0
145.0	0	0	0	0	0
150.0	0	0	0	0	0
155.0	0	0	0	0	0
160.0	0	0	0	0	0
165.0	0	0	0	0	0
170.0	0	0	0	0	0
175.0	0	0	0	0	0
180.0	0	0	0	0	0

ZONAL LUMEN SUMMARY

0- 5	26.
5- 10	90.
10- 15	167.
15- 20	230.
20- 25	249.
25- 30	240.
30- 35	226.
35- 40	209.
40- 45	184.
45- 50	158.
50- 55	138.
55- 60	119.
60- 65	88.
65- 70	44.
70- 75	18.
75- 80	9.
80- 85	7.
85- 90	6.
90- 95	15.
95-100	33.
100-105	36.
105-110	34.
110-115	17.
115-120	4.
120-125	1.
125-130	0.
130-135	0.
135-140	0.
140-145	0.
145-150	0.
150-155	0.
155-160	0.
160-165	0.
165-170	0.
170-175	0.
175-180	0.



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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	95	95	95	95	92	92	92	92	87	87	87	83	83	83	78	78	78	76	0
1	89	86	83	81	86	84	81	79	80	78	76	76	74	73	72	71	70	68	0
2	83	77	73	69	80	76	72	68	72	69	66	69	66	64	66	64	62	60	0
3	77	70	65	60	75	68	63	59	65	61	58	63	59	56	60	57	55	53	0
4	71	63	57	53	69	62	57	52	60	55	51	57	53	50	55	52	49	47	0
5	66	58	52	47	65	57	51	47	54	50	46	52	48	45	51	47	44	42	0
6	62	53	47	42	60	52	46	42	50	45	41	48	44	40	47	43	40	38	0
7	58	49	42	38	56	48	42	38	46	41	37	45	40	37	43	39	36	35	0
8	54	45	39	35	53	44	38	35	43	38	34	41	37	34	40	36	33	32	0
9	51	42	36	32	50	41	35	32	40	35	31	39	34	31	38	33	31	29	0
10	48	39	33	29	47	38	33	29	37	32	29	36	32	29	35	31	28	27	0

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 they 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 the candela values on the luminaire test report are higher than what the luminaire actually produced and the total luminaire efficiency 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 35 degree C ambient temperature.

T5TEMP.DIS