

# itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.  
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL80577

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ISSUE DATE: 02/12/14

PREPARED FOR: OXYGEN LIGHTING

CATALOG NUMBER: 2-692-224

LUMINAIRE: FORMED METAL HOUSING WITH WHITE PAINTED INTERIOR FINISH, TRANSLUCENT WHITE ACRYLIC DIFFUSER, 2 FABRICATED SEMI-DIFFUSE METAL DIFFUSER MOUNTING RINGS WITH 4 VERTICAL SUPPORT RODS. BALLAST IS EXPOSED AND MOUNTED OBLIQUELY ACROSS THE OPTICAL COMPARTMENT.

LAMPS: TWO 18-WATT DOUBLE TWIN TUBE COMPACT FLUORESCENTS, SYLVANIA CF18DD/E/827, LAMPS HORIZONTAL WITH TUBES VERTICAL.

BALLAST: ANTRON CSD-UV18PS

TOTAL INPUT WATTS = 31.7 AT 120.0 VOLTS

TOTAL REFLECTANCE OF PAINT = 80.6 %

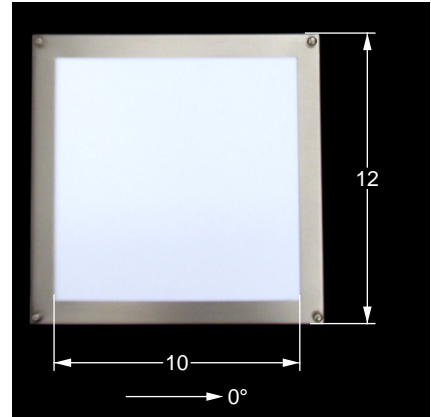
MOUNTING: SURFACE

THE 0 DEGREE PLANE IS PERPENDICULAR TO THE LAMPS.

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

REPORT IS BASED ON 1250 LUMENS PER LAMP.

\*\* (EXPLANATION FOLLOWS) \*\*



## CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	FLUX
0	152	152	152	152	152	15
5	152	152	152	152	152	43
15	153	152	151	151	151	69
25	152	152	152	148	148	91
35	147	148	149	143	139	105
45	137	139	140	133	127	110
55	123	127	128	120	112	107
65	107	112	113	104	95	95
75	89	95	96	87	75	78
85	69	76	77	68	55	69
90	61	69	70	60	47	64
95	61	69	70	60	47	55
105	58	66	67	58	46	43
115	53	60	62	53	43	30
125	47	51	53	45	38	17
135	37	41	42	36	31	8
145	27	29	30	26	23	2
155	17	17	18	15	15	0
165	7	7	6	7	7	
175	2	1	2	1	1	
180	0	0	0	0	0	

## ZONAL LUMEN SUMMARY

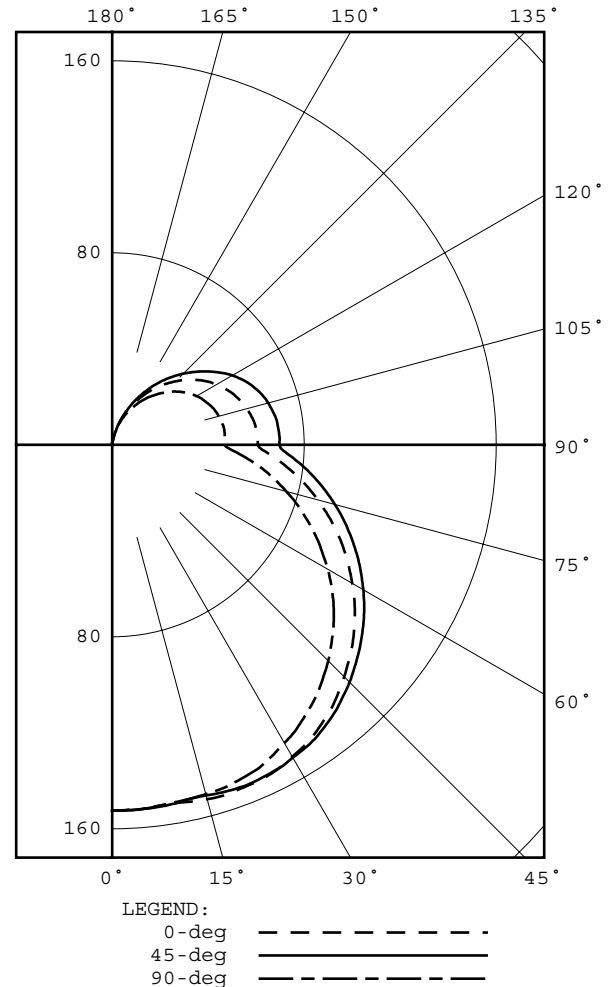
ZONE	LUMENS	%LAMP	%FIXT
0- 30	127	5.1	12.7
0- 40	218	8.7	21.8
0- 60	433	17.3	43.3
0- 90	713	28.5	71.2
90-120	188	7.5	18.8
90-130	231	9.2	23.1
90-150	278	11.1	27.8
90-180	288	11.5	28.8
0-180	1001	40.0	100.0

TOTAL LUMINAIRE EFFICIENCY = 40.0 %

CIE TYPE - SEMI-DIRECT

PLANE : 0-DEG 90-DEG

SPACING CRITERIA : 1.47 1.40



Checked B. HYRE

Approved R. BEATTIE  
Lighting Engineer



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CANDELA DISTRIBUTION  
LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	152	152	152	152	152
5.0	152	152	152	152	152
10.0	152	151	152	151	151
15.0	153	152	151	151	151
20.0	153	152	152	150	150
25.0	152	152	152	148	148
30.0	150	150	151	145	144
35.0	147	148	149	143	139
40.0	143	144	145	138	134
45.0	137	139	140	133	127
50.0	131	133	134	127	120
55.0	123	127	128	120	112
60.0	116	120	121	113	104
65.0	107	112	113	104	95
70.0	98	104	105	96	85
75.0	89	95	96	87	75
80.0	79	86	87	78	65
85.0	69	76	77	68	55
90.0	61	69	70	60	47
95.0	61	69	70	60	47
100.0	60	68	69	60	47
105.0	58	66	67	58	46
110.0	56	63	65	56	45
115.0	53	60	62	53	43
120.0	50	56	58	49	41
125.0	47	51	53	45	38
130.0	42	46	48	41	35
135.0	37	41	42	36	31
140.0	32	35	36	31	27
145.0	27	29	30	26	23
150.0	22	23	24	21	19
155.0	17	17	18	15	15
160.0	12	12	12	11	11
165.0	7	7	6	7	7
170.0	3	3	3	3	3
175.0	2	1	2	1	1
180.0	0	0	0	0	0



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5-DEGREE  
ZONAL LUMEN SUMMARY

0- 5	4
5- 10	11
10- 15	18
15- 20	25
20- 25	32
25- 30	38
30- 35	43
35- 40	48
40- 45	51
45- 50	54
50- 55	55
55- 60	55
60- 65	54
65- 70	52
70- 75	49
75- 80	46
80- 85	41
85- 90	36
90- 95	35
95-100	34
100-105	33
105-110	31
110-115	29
115-120	26
120-125	23
125-130	20
130-135	16
135-140	13
140-145	10
145-150	7
150-155	5
155-160	3
160-165	2
165-170	1
170-175	0
175-180	0

10-DEGREE  
ZONAL LUMEN SUMMARY

0- 10	15
0- 20	57
0- 30	127
0- 40	218
0- 50	323
0- 60	433
0- 70	540
0- 80	635
0- 90	713
0-100	781
0-110	846
0-120	901
0-130	944
0-140	973
0-150	991
0-160	999
0-170	1001
0-180	1001



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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	45	45	45	45	43	43	43	43	38	38	38	34	34	34	30	30	30	29
1	40	37	35	33	37	35	33	31	31	30	28	28	26	25	24	23	23	21
2	35	32	28	26	33	30	27	25	26	24	22	23	22	20	21	19	18	16
3	32	27	24	21	30	26	22	20	23	20	18	20	18	16	18	16	15	13
4	29	24	20	17	27	23	19	16	20	17	15	18	15	14	16	14	12	11
5	27	21	17	14	25	20	16	14	18	15	13	16	13	11	14	12	10	9
6	24	19	15	12	23	18	14	12	16	13	11	14	12	10	12	10	9	8
7	22	17	13	11	21	16	13	10	14	12	9	13	10	9	11	9	8	7
8	21	15	12	9	20	15	11	9	13	10	8	12	9	8	10	8	7	6
9	19	14	11	8	18	13	10	8	12	9	7	11	8	7	10	8	6	5
10	18	13	10	7	17	12	9	7	11	8	7	10	8	6	9	7	6	5

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

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The compact fluorescent lamps of the type used in this report may require special attention in photometry and luminaire application. Specifically, the lamps may generate lower flux output when operated in the horizontal position than when operated in the vertical base-up position. Unfortunately, at the time of this report, only the vertical flux output (lumen) rating is available from the lamp manufacturer. It is critical to note that if the lamp produces less lumens when in a horizontal position than when it is in a vertical position, the horizontal lamp calibration will yield higher luminaire candela and efficiency than a vertical lamp calibration. When applying the vertical lamp lumen rating to a report for a luminaire with a horizontal lamp(s) and using a horizontal lamp calibration, the report will show higher candela values than what the luminaire actually produced (since a horizontal lamp produces lower flux). For a report which was generated using a horizontal lamp calibration, any application calculations should use the actual flux output (lumens) from a horizontal lamp -- at this time, no such published lumen figures are available. The published lamp lumen rating given on this report is for a vertical base-up lamp. The lamp calibration for this report was performed with the lamp(s) in the same orientation as when the lamp(s) is/are in the luminaire.

CFL.DIS