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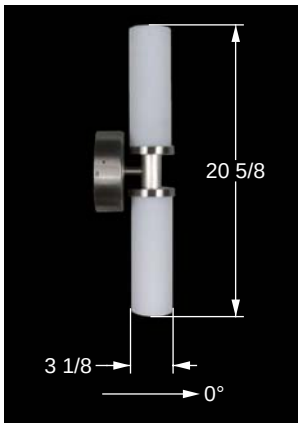
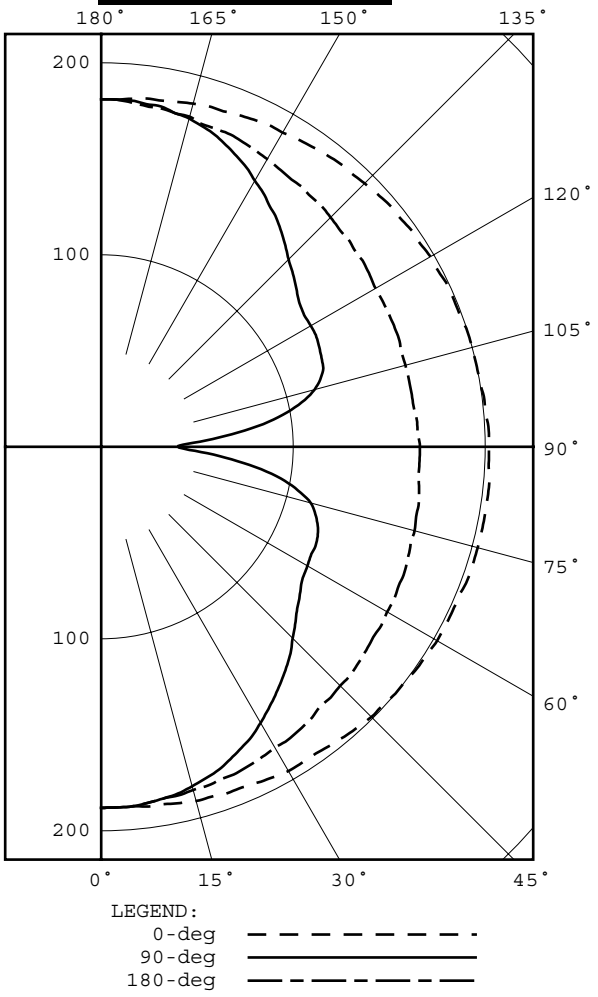
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955
INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA
PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL77191
ISSUE DATE: 06/13/13
PREPARED FOR: OXYGEN LIGHTING
CATALOG NUMBER: 2-5155-124
LUMINAIRE: FABRICATED SEMI-SPECULAR METAL HOUSING, 2 FROSTED CYLINDRICAL GLASS DIFFUSERS WITH TRANSLUCENT WHITE FINISHED INTERIOR, FABRICATED SEMI-SPECULAR DIFFUSER MOUNTING BRACKETS. OPEN ENDS.
LAMPS: TWO 18-WATT DOUBLE TWIN TUBE COMPACT FLUORESCENTS, SYLVANIA CF18DD/E/830. LAMPS HORIZONTAL, ONE WITH TUBES CANTED 11-DEGREES FROM VERTICAL, ONE WITH TUBES CANTED 48-DEGREES FROM VERTICAL.
BALLAST: ANTRON ELECTRONICS CSD-UV18P
TOTAL INPUT WATTS = 35.8 AT 120.0 VOLTS
MOUNTING: WALL
REPORT IS BASED ON 1250 LUMENS PER LAMP.
** (EXPLANATION FOLLOWS) **



CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	FLUX
0	188	188	188	188	188	
5	188	188	188	187	188	18
15	191	188	183	184	185	53
25	193	185	173	177	183	84
35	195	179	158	169	180	109
45	199	172	141	159	176	128
55	201	165	127	147	173	140
65	202	158	123	132	171	148
75	203	153	113	117	169	150
85	203	150	65	108	166	145
90	202	149	40	103	166	
95	201	150	65	109	165	145
105	200	153	115	117	164	150
115	199	157	125	130	165	147
125	197	163	127	141	167	137
135	194	170	138	153	169	124
145	191	176	153	162	171	105
155	188	181	167	170	175	81
165	185	183	177	176	178	51
175	182	181	181	180	180	17
180	181	181	181	181	181	



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	154	6.2	8.0
0- 40	263	10.5	13.6
0- 60	531	21.2	27.5
0- 90	973	38.9	50.4
90-120	441	17.6	22.9
90-130	579	23.1	30.0
90-150	808	32.3	41.9
90-180	957	38.3	49.6
0-180	1930	77.2	100.0

TOTAL LUMINAIRE EFFICIENCY = 77.2 %

CIE TYPE - GENERAL DIFFUSE

PLANE	: 0-DEG	90-DEG	180-DEG
SPACING CRITERIA	: 1.59	1.31	1.47

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	112.5	135.0	157.5	180.0
0.0	188	188	188	188	188	188	188	188	188
5.0	188	188	188	188	188	187	187	188	188
10.0	189	189	188	188	186	185	185	186	186
15.0	191	190	188	186	183	182	184	185	185
20.0	192	191	187	183	179	179	179	184	184
25.0	193	191	185	179	173	172	177	182	183
30.0	195	191	182	173	166	166	173	180	181
35.0	195	191	179	167	158	159	169	178	180
40.0	197	191	176	160	150	152	164	175	177
45.0	199	190	172	153	141	144	159	172	176
50.0	200	190	168	146	133	136	153	169	175
55.0	201	189	165	140	127	128	147	167	173
60.0	202	189	161	134	124	121	140	164	172
65.0	202	188	158	130	123	112	132	161	171
70.0	203	188	155	128	120	104	125	159	170
75.0	203	187	153	127	113	96	117	156	169
80.0	203	187	151	127	95	90	112	154	168
85.0	203	186	150	126	65	90	108	153	166
90.0	202	186	149	125	40	91	103	151	166
95.0	201	186	150	124	65	94	109	150	165
100.0	200	186	151	126	96	96	112	150	164
105.0	200	186	153	128	115	103	117	151	164
110.0	199	187	155	129	123	111	123	152	165
115.0	199	187	157	130	125	116	130	154	165
120.0	198	187	160	133	126	121	136	158	165
125.0	197	187	163	137	127	126	141	160	167
130.0	196	187	167	142	132	132	147	163	168
135.0	194	188	170	149	138	139	153	165	169
140.0	193	187	173	155	146	147	158	168	170
145.0	191	187	176	161	153	154	162	170	171
150.0	189	187	179	166	160	160	166	171	173
155.0	188	187	181	172	167	167	170	174	175
160.0	186	186	183	176	173	172	174	177	176
165.0	185	185	183	179	177	177	176	178	178
170.0	183	183	182	180	180	179	178	179	179
175.0	182	182	181	181	181	181	180	180	180
180.0	181	181	181	181	181	181	181	181	181

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	4
5- 10	13
10- 15	22
15- 20	30
20- 25	38
25- 30	45
30- 35	52
35- 40	57
40- 45	62
45- 50	66
50- 55	69
55- 60	71
60- 65	73
65- 70	75
70- 75	75
75- 80	75
80- 85	73
85- 90	71
90- 95	71
95-100	73
100-105	75
105-110	75
110-115	74
115-120	72
120-125	70
125-130	67
130-135	64
135-140	60
140-145	55
145-150	50
150-155	44
155-160	37
160-165	29
165-170	21
170-175	13
175-180	4

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	18
0- 20	70
0- 30	154
0- 40	263
0- 50	391
0- 60	531
0- 70	679
0- 80	829
0- 90	973
0-100	1118
0-110	1268
0-120	1415
0-130	1552
0-140	1676
0-150	1782
0-160	1862
0-170	1913
0-180	1930

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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	83	83	83	83	76	76	76	76	65	65	65	54	54	54	44	44	44	39
1	73	68	64	61	67	63	59	56	52	50	47	43	41	39	34	33	31	27
2	65	58	52	47	60	53	48	44	44	40	37	36	33	31	29	26	24	21
3	59	50	44	38	54	46	40	35	38	34	30	31	28	25	25	22	20	16
4	54	44	37	32	49	40	34	29	34	29	25	27	24	21	22	19	16	13
5	49	39	32	27	45	36	29	25	30	25	21	24	20	17	19	16	14	11
6	45	35	28	23	41	32	26	21	27	22	18	22	18	15	17	14	12	10
7	41	31	24	20	38	29	23	18	24	19	16	20	16	13	16	13	10	8
8	38	28	22	17	35	26	20	16	22	17	14	18	14	11	14	11	9	7
9	36	26	19	15	33	24	18	14	20	15	12	16	13	10	13	10	8	6
10	33	23	17	14	30	22	16	13	18	14	11	15	12	9	12	9	7	6

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.

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.

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ADDENDUM

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