

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: ITL78310

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ISSUE DATE: 09/04/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: MLP5-I1/D1-4-TWA-120-T8

LUMINAIRE: EXTRUDED 2-PIECE METAL HOUSING WITH WHITE PAINTED GENERAL INTERIOR FINISH, FABRICATED WHITE PAINTED METAL END CAPS AND 2 DISTINCT OPTICAL COMPARTMENTS, TOP OPTICAL COMPARTMENT CONSISTS OF: FORMED MULTI-FACETED SPECULAR METAL REFLECTOR, FORMED SPECULAR METAL SOCKET MOUNTING BRACKETS. BOTTOM OPTICAL COMPARTMENT CONSISTS OF: FORMED WHITE PAINTED METAL REFLECTOR AND SOCKET MOUNTING BRACKETS, EXTRUDED TRANSLUCENT WHITE FROSTED ACRYLIC DIFFUSER. DIFFUSER FROSTED BOTH SIDES. OPEN TOP.

LAMPS: TWO 32-WATT T-8 FO32/835 LINEAR FLUORESCENTS.

BALLAST: UNIVERSAL B232IUNV-C, UNIVERSAL B232IUNVHP-N

THE 0 DEGREE PLANE IS PERPENDICULAR TO THE LAMPS.

TOTAL REFLECTANCE OF PAINT = 89.2 %

MOUNTING: WALL

TOTAL INPUT WATTS = 66.6 AT 120.0 VOLTS

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

REPORT IS BASED ON 2950 LUMENS PER LAMP.

CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	FLUX
0	598	598	598	598	598	
5	593	595	596	595	594	56
15	572	574	574	575	574	162
25	530	531	532	534	535	245
35	469	470	472	475	475	295
45	391	394	396	398	398	305
55	302	305	308	310	311	274
65	206	208	212	215	215	209
75	111	112	115	118	120	122
85	28	29	32	34	35	36
90	0	0	0	0	0	
95	69	73	17	3	4	41
105	327	313	113	12	5	164
115	538	527	232	59	36	280
125	764	747	351	118	90	367
135	955	908	452	186	154	401
145	1091	933	555	268	224	377
155	1003	870	638	402	318	297
165	891	834	690	539	475	193
175	777	767	716	665	639	68
180	716	716	716	716	716	

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	463	7.9	11.9
0- 40	758	12.9	19.5
0- 60	1337	22.7	34.3
0- 90	1704	28.9	43.8
90-120	486	8.2	12.5
90-130	853	14.5	21.9
90-150	1632	27.7	41.9
90-180	2190	37.1	56.2
0-180	3894	66.0	100.0

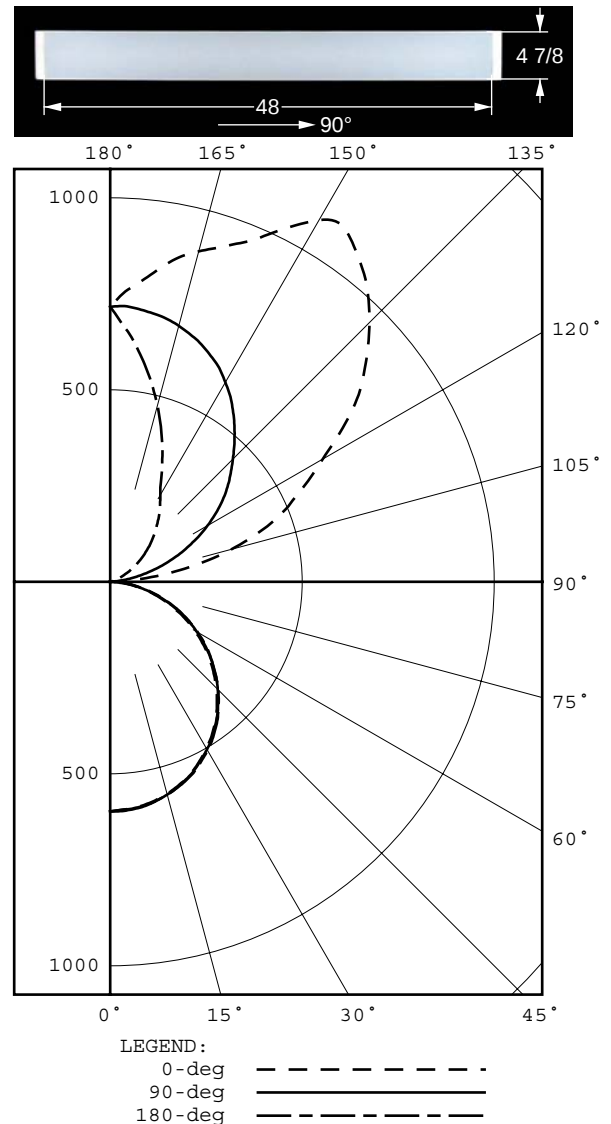
TOTAL LUMINAIRE EFFICIENCY = 66.0 %

CIE TYPE - GENERAL DIFFUSE

PLANE : 0-DEG 90-DEG 180-DEG

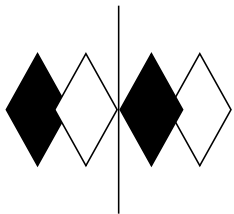
SPACING CRITERIA : 1.25 1.25 1.26

SHIELDING ANGLES : 90 90



Checked B. HYRE

Approved R. BEATTIE
Lighting Engineer



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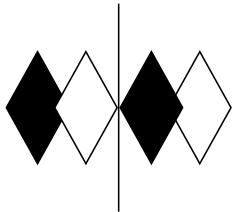
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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 4.875 48.000

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	90-DEG	180-DEG
45	3663.	3710.	3728.
55	3488.	3557.	3592.
65	3229.	3323.	3370.
75	2841.	2943.	3071.
85	2128.	2432.	2660.



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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	598	598	598	598	598	598	598	598	598
5.0	593	595	595	591	596	592	595	596	594
10.0	585	587	587	584	588	584	588	589	587
15.0	572	573	574	570	574	571	575	576	574
20.0	554	555	555	552	555	554	557	559	557
25.0	530	531	531	528	532	530	534	536	535
30.0	501	503	503	500	504	503	507	509	507
35.0	469	469	470	468	472	470	475	476	475
40.0	432	432	435	432	436	434	438	440	438
45.0	391	392	394	392	396	395	398	399	398
50.0	347	348	351	351	353	352	355	356	354
55.0	302	302	305	306	308	308	310	310	311
60.0	254	254	258	258	261	262	263	262	263
65.0	206	206	208	211	212	213	215	214	215
70.0	158	159	159	162	163	164	166	165	167
75.0	111	112	112	114	115	117	118	118	120
80.0	67	68	68	70	70	72	74	74	75
85.0	28	30	29	31	32	33	34	34	35
90.0	0	0	0	0	0	0	0	0	0
95.0	69	76	73	76	17	2	3	3	4
100.0	197	199	196	172	60	11	4	4	4
105.0	327	325	313	284	113	32	12	5	5
110.0	445	442	410	392	172	58	33	19	14
115.0	538	537	527	490	232	89	59	42	36
120.0	639	643	649	579	293	123	87	69	62
125.0	764	767	747	627	351	160	118	98	90
130.0	866	861	834	655	403	211	152	129	121
135.0	955	948	908	683	452	271	186	163	154
140.0	1033	1021	954	704	504	333	222	197	188
145.0	1091	1077	933	720	555	394	268	232	224
150.0	1087	1040	897	736	600	453	334	272	261
155.0	1003	966	870	752	638	510	402	339	318
160.0	935	913	855	758	668	562	479	415	394
165.0	891	877	834	756	690	610	539	493	475
170.0	840	829	796	754	706	651	605	570	557
175.0	777	775	767	738	716	683	665	647	639
180.0	716	716	716	716	716	716	716	716	716



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5-DEGREE

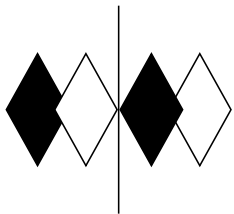
ZONAL LUMEN SUMMARY

0- 5	14
5- 10	42
10- 15	69
15- 20	93
20- 25	114
25- 30	131
30- 35	144
35- 40	151
40- 45	154
45- 50	151
50- 55	143
55- 60	131
60- 65	114
65- 70	95
70- 75	73
75- 80	50
80- 85	28
85- 90	8
90- 95	6
95-100	35
100-105	66
105-110	98
110-115	127
115-120	153
120-125	176
125-130	191
130-135	200
135-140	202
140-145	196
145-150	182
150-155	160
155-160	137
160-165	111
165-170	82
170-175	51
175-180	17

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	56
0- 20	218
0- 30	463
0- 40	758
0- 50	1063
0- 60	1337
0- 70	1546
0- 80	1668
0- 90	1704
0-100	1746
0-110	1910
0-120	2190
0-130	2558
0-140	2959
0-150	3336
0-160	3633
0-170	3827
0-180	3894



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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	70	70	70	70	64	64	64	64	53	53	53	43	43	43	33	33	33	29
1	64	61	58	56	58	56	53	51	46	44	43	37	36	35	29	29	28	24
2	58	53	49	45	53	48	45	42	40	38	35	33	31	29	26	24	23	20
3	53	46	41	38	48	43	38	35	35	32	30	29	26	25	23	21	20	17
4	48	41	36	32	44	38	33	29	31	28	25	26	23	21	20	18	17	14
5	44	36	31	27	40	33	29	25	28	24	22	23	20	18	18	16	15	12
6	41	33	27	23	37	30	25	22	25	21	19	21	18	16	16	14	13	11
7	37	29	24	20	34	27	22	19	23	19	16	19	16	14	15	13	11	10
8	35	27	21	18	32	25	20	17	21	17	15	17	14	12	14	12	10	9
9	32	24	19	16	29	22	18	15	19	15	13	16	13	11	13	11	9	8
10	30	22	17	14	28	21	16	13	17	14	12	14	12	10	12	10	8	7

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.