

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: ITL78312

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ISSUE DATE: 09/11/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: MLP5-I1/D2-4-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: THREE 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 = 85.5 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	1055	1055	1055	1055	1055	
5	1048	1051	1054	1052	1051	100
15	1010	1013	1015	1016	1014	286
25	935	938	939	941	940	432
35	825	829	831	834	830	519
45	687	694	698	698	694	535
55	531	538	543	544	539	482
65	364	369	374	374	370	367
75	197	200	203	204	203	214
85	52	54	56	59	60	64
90	0	0	0	0	0	
95	71	82	20	4	4	45
105	352	340	124	13	6	178
115	581	570	248	63	39	302
125	822	803	374	128	98	395
135	1026	977	484	200	167	432
145	1173	1003	595	289	240	405
155	1076	934	682	433	343	319
165	953	895	738	578	512	207
175	832	820	766	712	684	72
180	766	766	766	766	766	

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	818	9.2	15.3
0- 40	1336	15.1	25.0
0- 60	2354	26.6	44.0
0- 90	2998	33.9	56.0
90-120	525	5.9	9.8
90-130	920	10.4	17.2
90-150	1757	19.9	32.8
90-180	2356	26.6	44.0
0-180	5354	60.5	100.0

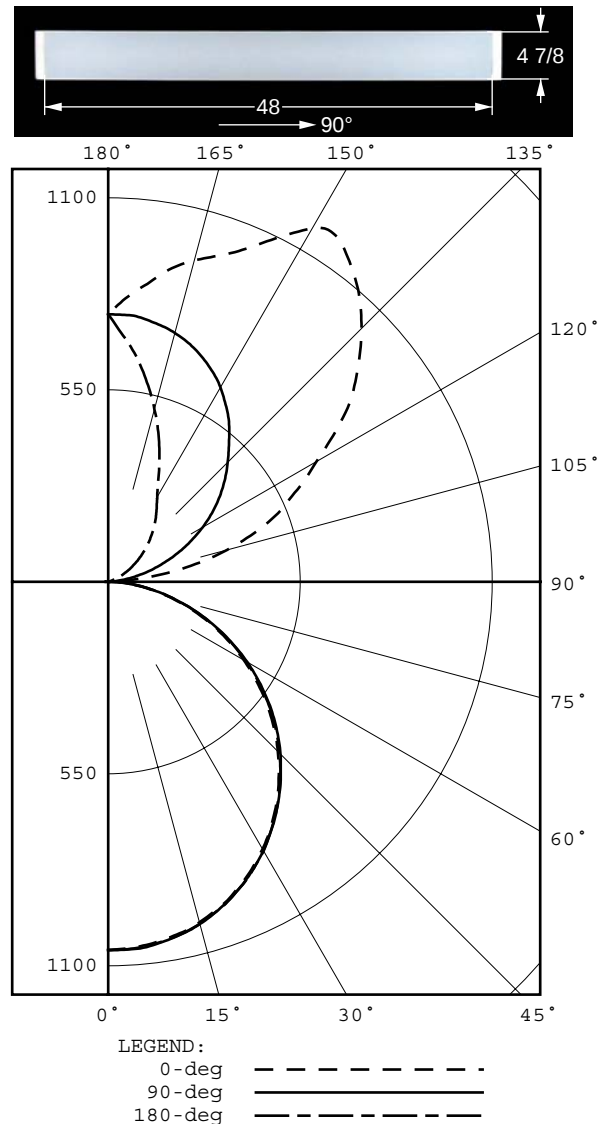
TOTAL LUMINAIRE EFFICIENCY = 60.5 %

CIE TYPE - GENERAL DIFFUSE

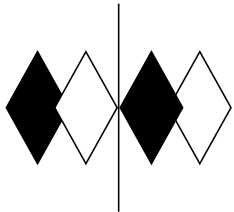
PLANE : 0-DEG 90-DEG 180-DEG

SPACING CRITERIA : 1.25 1.25 1.25

SHIELDING ANGLES : 90 90



Checked M. KLOPF
Approved R. BEATTIE
Lighting Engineer



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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	6436.	6539.	6501.
55	6132.	6271.	6225.
65	5705.	5862.	5799.
75	5042.	5195.	5195.
85	3952.	4256.	4560.



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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	1055	1055	1055	1055	1055	1055	1055	1055	1055
5.0	1048	1052	1051	1045	1054	1046	1052	1054	1051
10.0	1033	1038	1037	1031	1038	1032	1039	1040	1037
15.0	1010	1014	1013	1008	1015	1009	1016	1017	1014
20.0	978	980	980	974	981	976	983	985	982
25.0	935	937	938	932	939	935	941	943	940
30.0	884	887	888	882	889	885	891	892	890
35.0	825	827	829	826	831	828	834	834	830
40.0	759	760	766	762	767	766	769	769	765
45.0	687	688	694	692	698	696	698	697	694
50.0	611	613	618	617	623	622	623	621	619
55.0	531	532	538	539	543	542	544	541	539
60.0	448	449	454	455	460	458	459	457	455
65.0	364	365	369	370	374	373	374	372	370
70.0	279	280	283	284	288	287	288	288	285
75.0	197	200	200	201	203	203	204	205	203
80.0	121	123	123	123	124	125	126	128	126
85.0	52	55	54	56	56	56	59	58	60
90.0	0	0	0	0	0	0	0	0	0
95.0	71	79	82	79	20	3	4	4	4
100.0	213	213	217	184	67	12	5	5	5
105.0	352	350	340	303	124	35	13	6	6
110.0	479	477	445	422	184	63	35	20	15
115.0	581	579	570	530	248	96	63	45	39
120.0	689	696	699	624	313	132	94	73	67
125.0	822	827	803	675	374	172	128	105	98
130.0	930	928	896	705	431	226	163	138	131
135.0	1026	1024	977	735	484	291	200	174	167
140.0	1109	1101	1025	755	539	358	239	211	203
145.0	1173	1158	1003	773	595	424	289	249	240
150.0	1169	1114	964	791	643	488	359	292	281
155.0	1076	1034	934	807	682	547	433	363	343
160.0	1000	979	918	813	714	603	514	445	426
165.0	953	940	895	812	738	654	578	528	512
170.0	897	887	855	808	754	697	648	612	600
175.0	832	832	820	789	766	732	712	695	684
180.0	766	766	766	766	766	766	766	766	766



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5-DEGREE

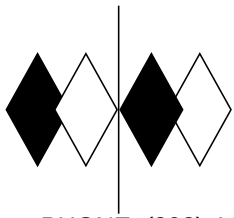
ZONAL LUMEN SUMMARY

0- 5	25
5- 10	75
10- 15	122
15- 20	164
20- 25	201
25- 30	231
30- 35	253
35- 40	266
40- 45	270
45- 50	265
50- 55	252
55- 60	230
60- 65	201
65- 70	166
70- 75	127
75- 80	87
80- 85	49
85- 90	15
90- 95	7
95-100	38
100-105	72
105-110	106
110-115	137
115-120	166
120-125	190
125-130	205
130-135	215
135-140	217
140-145	210
145-150	195
150-155	172
155-160	147
160-165	119
165-170	88
170-175	54
175-180	18

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	100
0- 20	386
0- 30	818
0- 40	1336
0- 50	1872
0- 60	2354
0- 70	2720
0- 80	2934
0- 90	2998
0-100	3043
0-110	3221
0-120	3523
0-130	3918
0-140	4350
0-150	4755
0-160	5074
0-170	5281
0-180	5354



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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	66	66	66	66	61	61	61	61	52	52	52	45	45	45	37	37	37	34
1	60	57	55	53	56	53	51	49	46	44	43	39	38	37	33	32	31	28
2	54	50	46	43	50	46	43	40	40	37	35	34	32	31	29	27	26	23
3	50	44	39	35	46	41	37	33	35	32	30	30	28	26	25	24	22	20
4	45	39	34	30	42	36	32	28	31	28	25	27	24	22	23	21	19	17
5	42	34	29	26	38	32	28	24	28	24	22	24	21	19	20	18	16	15
6	38	31	26	22	35	29	24	21	25	21	19	22	19	17	18	16	14	13
7	35	28	23	19	33	26	22	18	23	19	17	20	17	15	17	14	13	11
8	33	25	20	17	30	24	19	16	21	17	15	18	15	13	15	13	11	10
9	31	23	18	15	28	22	17	15	19	16	13	16	14	12	14	12	10	9
10	29	21	17	14	27	20	16	13	17	14	12	15	12	11	13	11	9	8

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.