



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: ITL78306

PAGE: 1 OF 5

ISSUE DATE: 09/06/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: MLS5-I2/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 WHITE PAINTED 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 F032/835 LINEAR FLUORESCENTS.

BALLAST: UNIVERSAL B232IUNV-C, UNIVERSAL B232IUNVHP-N

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

TOTAL REFLECTANCE OF PAINT = 90.1 %

MOUNTING: SUSPENDED

TOTAL INPUT WATTS = 87.2 AT 120.0 VOLTS

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

REPORT IS BASED ON 2950 LUMENS PER LAMP.

CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0	FLUX
0	653	653	653	653	653	
5	650	646	650	650	648	62
15	627	624	628	629	627	177
25	580	578	582	584	582	268
35	515	513	517	518	517	323
45	431	431	434	433	432	333
55	337	335	337	335	334	300
65	232	231	232	230	230	229
75	125	126	127	126	127	134
85	34	35	35	35	36	40
90	0	0	0	0	0	
95	43	56	47	42	43	65
105	266	345	300	274	263	315
115	521	667	632	595	581	604
125	760	883	964	935	922	808
135	977	1057	1175	1220	1225	877
145	1165	1213	1304	1366	1379	807
155	1314	1335	1390	1429	1441	638
165	1415	1417	1446	1459	1461	407
175	1460	1457	1464	1464	1464	139
180	1465	1465	1465	1465	1465	

ZONAL LUMEN SUMMARY

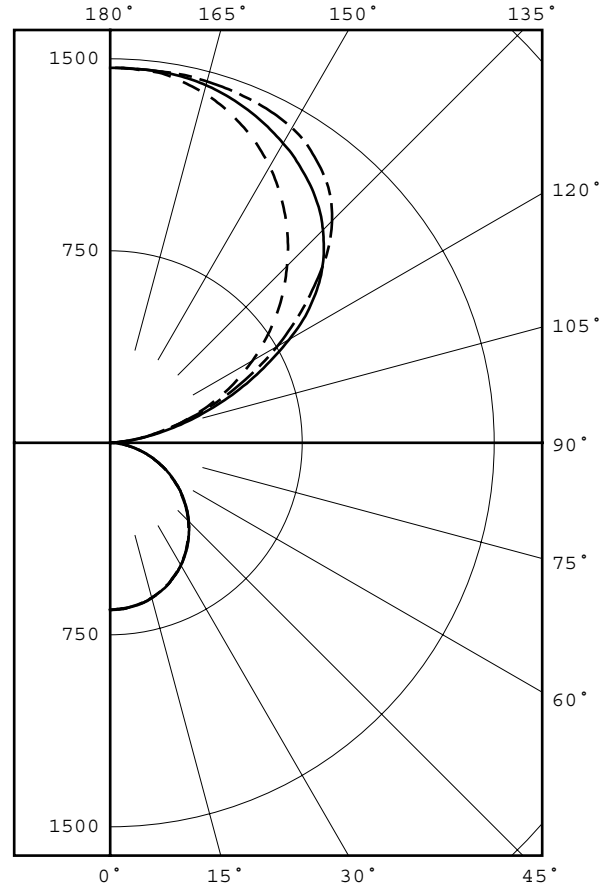
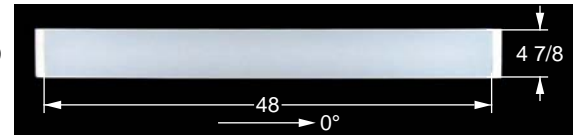
ZONE	LUMENS	%LAMP	%FIXT
0- 30	506	5.7	7.8
0- 40	829	9.4	12.7
0- 60	1462	16.5	22.4
0- 90	1865	21.1	28.6
90-120	984	11.1	15.1
90-130	1793	20.3	27.5
90-150	3476	39.3	53.3
90-180	4661	52.7	71.4
0-180	6526	73.7	100.0

TOTAL LUMINAIRE EFFICIENCY = 73.7 %

CIE TYPE - SEMI-INDIRECT

PLANE : 0-DEG 90-DEG

SHIELDING ANGLES : 90 90



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

Checked M KLOPF

Approved R BEATTIE
Lighting Engineer



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: ITL78306

PAGE: 2 OF 5

ISSUE DATE: 09/06/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

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

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	4037.	4066.	4047.
55	3892.	3892.	3857.
65	3636.	3636.	3605.
75	3199.	3250.	3250.
85	2584.	2660.	2736.



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: ITL78306

PAGE: 3 OF 5

ISSUE DATE: 09/06/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	653	653	653	653	653
5.0	650	646	650	650	648
10.0	642	638	642	643	640
15.0	627	624	628	629	627
20.0	606	603	608	609	607
25.0	580	578	582	584	582
30.0	550	548	552	553	552
35.0	515	513	517	518	517
40.0	475	474	477	477	477
45.0	431	431	434	433	432
50.0	386	384	387	385	384
55.0	337	335	337	335	334
60.0	285	284	285	284	282
65.0	232	231	232	230	230
70.0	178	178	178	178	178
75.0	125	126	127	126	127
80.0	76	78	79	78	79
85.0	34	35	35	35	36
90.0	0	0	0	0	0
95.0	43	56	47	42	43
100.0	146	184	156	144	143
105.0	266	345	300	274	263
110.0	393	522	460	428	416
115.0	521	667	632	595	581
120.0	642	784	807	766	753
125.0	760	883	964	935	922
130.0	873	973	1084	1100	1089
135.0	977	1057	1175	1220	1225
140.0	1076	1138	1248	1304	1319
145.0	1165	1213	1304	1366	1379
150.0	1246	1279	1351	1404	1420
155.0	1314	1335	1390	1429	1441
160.0	1370	1381	1422	1446	1453
165.0	1415	1417	1446	1459	1461
170.0	1446	1443	1460	1463	1465
175.0	1460	1457	1464	1464	1464
180.0	1465	1465	1465	1465	1465



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: ITL78306

PAGE: 4 OF 5

ISSUE DATE: 09/06/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

5-DEGREE

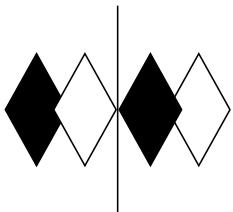
ZONAL LUMEN SUMMARY

0- 5	16
5- 10	46
10- 15	75
15- 20	102
20- 25	125
25- 30	143
30- 35	157
35- 40	165
40- 45	168
45- 50	165
50- 55	157
55- 60	143
60- 65	125
65- 70	103
70- 75	80
75- 80	54
80- 85	30
85- 90	9
90- 95	11
95-100	54
100-105	120
105-110	195
110-115	270
115-120	334
120-125	386
125-130	422
130-135	439
135-140	437
140-145	419
145-150	388
150-155	345
155-160	293
160-165	235
165-170	172
170-175	104
175-180	35

10-DEGREE

ZONAL LUMEN SUMMARY

0- 10	62
0- 20	239
0- 30	506
0- 40	829
0- 50	1162
0- 60	1462
0- 70	1691
0- 80	1825
0- 90	1865
0-100	1930
0-110	2245
0-120	2849
0-130	3657
0-140	4534
0-150	5341
0-160	5979
0-170	6386
0-180	6526



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: ITL78306

PAGE: 5 OF 5

ISSUE DATE: 09/06/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

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	75	75	75	75	67	67	67	67	53	53	53	39	39	39	27	27	27	21	0
1	68	65	63	60	61	59	56	54	46	44	43	34	33	32	24	23	22	18	0
2	62	57	53	49	56	51	47	44	40	38	35	30	28	27	21	20	19	15	0
3	57	50	45	41	51	45	40	37	35	32	30	26	24	23	18	17	16	12	0
4	52	44	38	34	46	40	35	31	31	28	25	23	21	19	16	15	14	10	0
5	47	39	33	29	42	35	30	26	28	24	21	21	19	17	15	13	12	9	0
6	44	35	29	25	39	31	26	23	25	21	19	19	16	14	13	12	10	8	0
7	40	31	26	22	36	28	23	20	23	19	16	17	15	13	12	10	9	7	0
8	37	28	23	19	33	26	21	17	20	17	14	16	13	11	11	9	8	6	0
9	35	26	20	17	31	23	19	15	19	15	13	14	12	10	10	8	7	6	0
10	32	24	18	15	29	21	17	14	17	14	11	13	11	9	9	8	7	5	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.