

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: ITL78302

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ISSUE DATE: 09/03/13

PREPARED FOR: PRECISION ARCHITECTURAL LIGHTING

CATALOG NUMBER: MLS5-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 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: TWO 32-WATT T-8 FO32/835 LINEAR FLUORESCENTS.

BALLAST: UNIVERSAL B232IUNV-C, UNIVERSAL B232IUNVHP-N

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMPS.

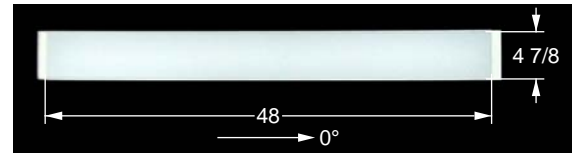
TOTAL REFLECTANCE OF PAINT = 90.0 %

MOUNTING: SUSPENDED

TOTAL INPUT WATTS = 67.6 AT 120.0 VOLTS

NOTE: DIFFUSER MATERIAL INFORMATION PROVIDED BY CLIENT.

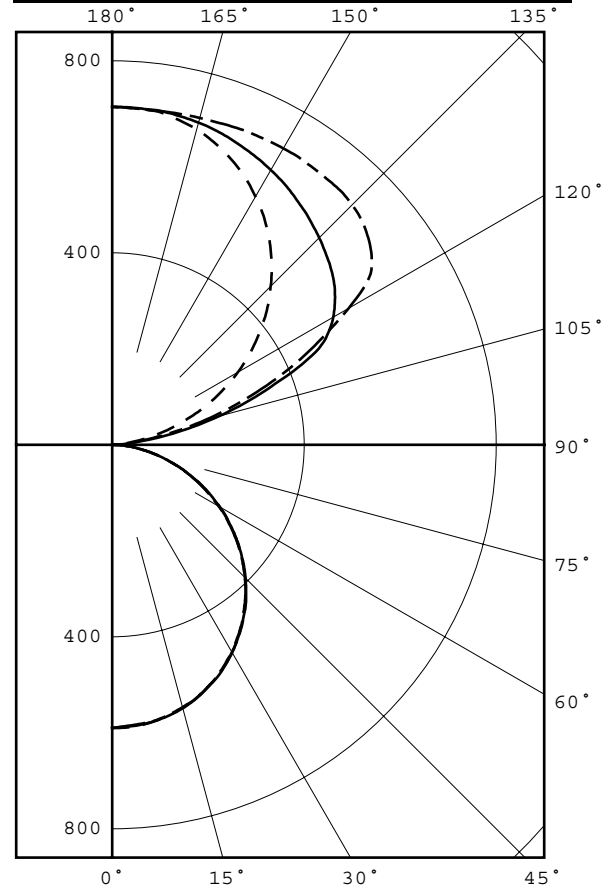
REPORT IS BASED ON 2950 LUMENS PER LAMP.



CANDELA DISTRIBUTION

FLUX

	0.0	22.5	45.0	67.5	90.0	
0	590	590	590	590	590	
5	588	584	587	588	585	56
15	567	564	568	568	566	160
25	526	523	528	528	527	242
35	466	464	468	468	467	292
45	391	390	393	391	391	302
55	305	305	305	303	303	272
65	211	210	210	209	208	208
75	115	115	115	114	114	122
85	32	32	32	33	32	36
90	0	0	0	0	0	
95	19	41	33	35	35	45
105	119	262	230	209	203	225
115	241	366	475	452	444	401
125	360	439	566	640	660	480
135	467	515	610	683	707	463
145	559	585	646	695	713	402
155	631	641	674	702	711	310
165	680	680	695	703	705	196
175	702	699	703	703	702	67
180	704	704	704	704	704	



LEGEND:
 0-deg -----
 45-deg =====
 90-deg - . - . - .

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LAMP	%FIXT
0- 30	458	7.8	10.7
0- 40	750	12.7	17.5
0- 60	1324	22.4	30.9
0- 90	1689	28.6	39.5
90-120	671	11.4	15.7
90-130	1151	19.5	26.9
90-150	2015	34.1	47.1
90-180	2588	43.9	60.5
0-180	4277	72.5	100.0

TOTAL LUMINAIRE EFFICIENCY = 72.5 %

CIE TYPE - SEMI-INDIRECT
PLANE : 0-DEG 90-DEG
SHIELDING ANGLES : 90 90

Checked M KLOPF
 Approved R BEATTIE
 Lighting Engineer



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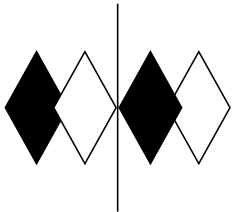
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PLANE : 0-DEG 90-DEG
LUMINOUS LENGTH : 48.000 4.875

LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	3663.	3681.	3663.
55	3522.	3522.	3499.
65	3307.	3291.	3260.
75	2943.	2943.	2918.
85	2432.	2432.	2432.



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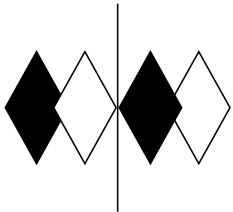
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CANDELA DISTRIBUTION
 LATERAL ANGLE

	0.0	22.5	45.0	67.5	90.0
0.0	590	590	590	590	590
5.0	588	584	587	588	585
10.0	580	577	580	581	579
15.0	567	564	568	568	566
20.0	549	546	550	551	549
25.0	526	523	528	528	527
30.0	498	496	500	500	499
35.0	466	464	468	468	467
40.0	430	429	433	431	431
45.0	391	390	393	391	391
50.0	349	349	350	349	348
55.0	305	305	305	303	303
60.0	259	258	258	257	256
65.0	211	210	210	209	208
70.0	162	162	162	162	161
75.0	115	115	115	114	114
80.0	70	71	71	71	71
85.0	32	32	32	33	32
90.0	0	0	0	0	0
95.0	19	41	33	35	35
100.0	63	142	118	100	95
105.0	119	262	230	209	203
110.0	179	326	350	329	320
115.0	241	366	475	452	444
120.0	302	401	532	581	569
125.0	360	439	566	640	660
130.0	416	477	590	668	691
135.0	467	515	610	683	707
140.0	515	551	629	691	712
145.0	559	585	646	695	713
150.0	597	615	661	699	713
155.0	631	641	674	702	711
160.0	658	663	686	702	708
165.0	680	680	695	703	705
170.0	695	692	701	703	703
175.0	702	699	703	703	702
180.0	704	704	704	704	704



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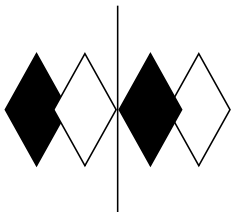
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5-DEGREE
 ZONAL LUMEN SUMMARY

0- 5	14
5- 10	42
10- 15	68
15- 20	92
20- 25	113
25- 30	130
30- 35	142
35- 40	150
40- 45	152
45- 50	150
50- 55	142
55- 60	130
60- 65	114
65- 70	94
70- 75	72
75- 80	50
80- 85	28
85- 90	8
90- 95	8
95-100	37
100-105	87
105-110	138
110-115	183
115-120	218
120-125	238
125-130	242
130-135	237
135-140	226
140-145	210
145-150	191
150-155	168
155-160	142
160-165	113
165-170	83
170-175	50
175-180	17

10-DEGREE
 ZONAL LUMEN SUMMARY

0- 10	56
0- 20	216
0- 30	458
0- 40	750
0- 50	1052
0- 60	1324
0- 70	1531
0- 80	1653
0- 90	1689
0-100	1734
0-110	1959
0-120	2360
0-130	2840
0-140	3302
0-150	3704
0-160	4014
0-170	4210
0-180	4277



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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	76	76	76	76	69	69	69	69	56	56	56	44	44	44	34	34	34	29	
1	69	66	63	61	63	60	58	55	49	47	46	39	38	37	30	29	28	24	
2	63	57	53	49	57	52	49	45	43	40	38	34	32	30	26	25	24	20	
3	57	50	45	41	52	46	41	38	38	34	32	30	28	26	23	21	20	17	
4	52	44	39	34	47	41	36	32	33	30	27	27	24	22	20	19	17	14	
5	48	39	34	29	43	36	31	27	30	26	23	24	21	19	18	16	15	12	
6	44	35	30	25	40	32	27	24	27	23	20	21	19	16	17	15	13	11	
7	41	32	26	22	37	29	24	21	24	20	17	19	17	14	15	13	11	9	
8	38	29	23	19	34	26	22	18	22	18	15	18	15	13	14	12	10	8	
9	35	26	21	17	32	24	19	16	20	16	14	16	13	11	13	11	9	8	
10	33	24	19	15	30	22	17	14	18	15	12	15	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.