



LIGHTING SCIENCES CANADA LTD.

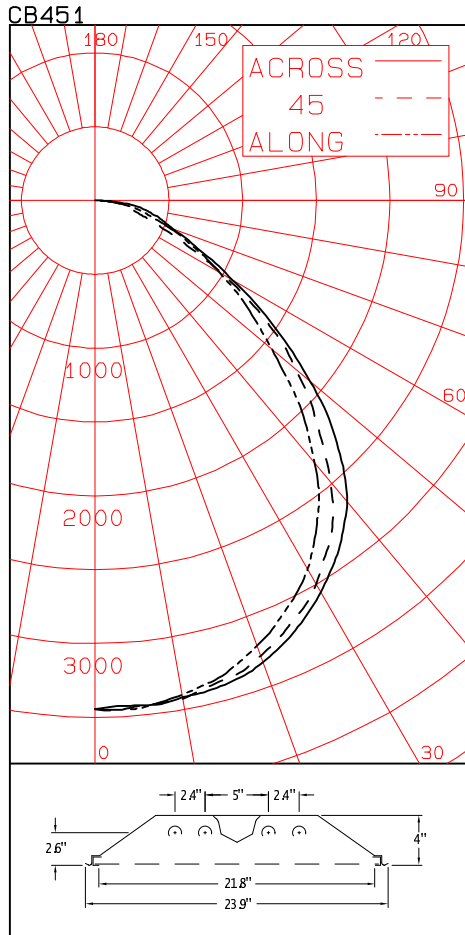
440 Phillip St., Unit 19, Waterloo, Ontario, Canada N2L 5R9
 Tel: (519) 746-3140 Fax: (519) 746-3156 lsc@lightingsciences.ca

CERTIFIED TEST REPORT NO. LSC B451
 COMPUTED BY LSC PROGRAM **TEST-LITE**

PIONEER FLUORESCENT 2'x4' TROFFER LUMINAIRE CAT. NO. TB 24-448-EL
 WITH WHITE PAINTED INTERIOR AND ACRYLIC K12 LENS
 FOUR F32T8/TL841 32W T8 FLUORESCENT LAMPS. LUMEN RATING = 2950 LMS.
 ONE ADVANCE 120V 3 OR 4-LAMP ELECTRONIC BALLAST NO. REL-4P32-SC

CANDLEPOWER SUMMARY

OUTPUT
LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	3445	3445	3445	3445	3445	
5	3452	3446	3434	3437	3432	332
10	3399	3413	3425	3415	3416	
15	3333	3350	3361	3380	3394	948
20	3211	3237	3281	3314	3329	
25	3059	3103	3151	3195	3213	1447
30	2882	2911	2998	3044	3062	
35	2630	2676	2788	2856	2886	1721
40	2316	2365	2483	2598	2661	
45	1964	1996	2125	2250	2318	1635
50	1562	1634	1777	1856	1905	
55	1258	1280	1410	1461	1480	1229
60	974	937	998	1058	1078	
65	723	653	629	730	766	704
70	531	478	408	545	560	
75	373	333	278	390	449	382
80	261	229	246	272	335	
85	130	105	124	155	182	141
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	2728	23.12	31.94
0-40	4448	37.70	52.09
0-60	7313	61.98	85.63
0-90	8540	72.38	100.00
40-90	4091	34.68	47.91
60-90	1227	10.40	14.37
90-180	0	.00	.00
0-180	8540	72.38	100.00

** EFFICIENCY = 72.4% **

LUMINANCE SUMMARY-CD. / SQ. M.

PAINT REFLECTANCE = .84 S/MH = 1.3
 SC (ALONG) = 1.2, SC (ACROSS) = 1.3

ANGLE	ALONG	45	ACROSS
45	4301	4672	5097
55	3396	3822	4011
65	2648	2313	2818
75	2232	1665	2698
85	2306	2203	3254

CERTIFIED BY:

Charles Sisson

DATE:
NOV 24, 2006

PREPARED FOR:

PIONEER LIGHTING
 TORONTO, ONTARIO

TESTED ACCORDING TO IES PROCEDURES. TEST DISTANCE EXCEEDS FIVE
 TIMES THE GREATEST LUMINOUS OPENING OF LUMINAIRE.

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CANDLEPOWER DATA
 IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
.0	3445	3445	3445	3445	3445	3445	
2.5	3451	3469	3454	3423	3428	3446	
5.0	3452	3446	3434	3437	3432	3440	332
7.5	3425	3432	3432	3416	3440	3428	
10.0	3399	3413	3425	3415	3416	3415	
12.5	3364	3383	3388	3407	3411	3392	
15.0	3333	3350	3361	3380	3394	3364	948
17.5	3271	3317	3339	3351	3371	3332	
20.0	3211	3237	3281	3314	3329	3276	
22.5	3144	3168	3225	3265	3274	3217	
25.0	3059	3103	3151	3195	3213	3146	1447
27.5	2982	3005	3089	3132	3141	3072	
30.0	2882	2911	2998	3044	3062	2981	
32.5	2760	2791	2886	2958	2975	2875	
35.0	2630	2676	2788	2856	2886	2769	1721
37.5	2495	2525	2653	2738	2774	2638	
40.0	2316	2365	2483	2598	2661	2484	
42.5	2135	2192	2304	2424	2502	2310	
45.0	1964	1996	2125	2250	2318	2128	1635
47.5	1755	1817	1966	2061	2131	1947	
50.0	1562	1634	1777	1856	1905	1750	
52.5	1403	1465	1616	1662	1688	1572	
55.0	1258	1280	1410	1461	1480	1380	1229
57.5	1117	1111	1214	1249	1276	1192	
60.0	974	937	998	1058	1078	1005	
62.5	857	785	806	878	919	839	
65.0	723	653	629	730	766	689	704
67.5	630	550	501	620	666	580	
70.0	531	478	408	545	560	494	
72.5	443	404	330	460	499	416	
75.0	373	333	278	390	449	353	382
77.5	313	272	257	337	384	304	
80.0	261	229	246	272	335	261	
82.5	187	165	171	212	265	193	
85.0	130	105	124	155	182	135	141
87.5	41	48	39	80	99	59	
90.0	0	0	0	0	0	0	

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AVERAGE LUMINANCE DATA

ANGLE	ALONG	CD. / SQ. M. (FOOTLAMBERTS)			ACROSS
		22.5	45	67.5	
0	5336 (1557)	5336 (1557)	5336 (1557)	5336 (1557)	5336 (1557)
30	5155 (1504)	5220 (1523)	5376 (1569)	5457 (1592)	5476 (1598)
40	4682 (1366)	4795 (1399)	5025 (1466)	5268 (1537)	5381 (1570)
45	4301 (1255)	4378 (1277)	4672 (1363)	4944 (1443)	5097 (1487)
50	3764 (1098)	3953 (1153)	4282 (1249)	4486 (1309)	4590 (1339)
55	3396 (991)	3463 (1010)	3822 (1115)	3957 (1155)	4011 (1170)
60	3019 (881)	2913 (850)	3096 (903)	3287 (959)	3340 (974)
65	2648 (772)	2394 (698)	2313 (675)	2683 (783)	2818 (822)
70	2406 (702)	2171 (633)	1854 (541)	2474 (722)	2536 (740)
75	2232 (651)	2001 (584)	1665 (486)	2344 (684)	2698 (787)
80	2324 (678)	2054 (599)	2205 (643)	2428 (708)	2985 (871)
85	2306 (673)	1877 (547)	2203 (643)	2761 (806)	3254 (949)

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES

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COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	80				70				50				30				10				0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	.86	.86	.86	.86	.84	.84	.84	.84	.80	.80	.80	.77	.77	.77	.74	.74	.74	.74	.74	.74	.72
1	.80	.77	.74	.72	.78	.75	.73	.71	.72	.70	.69	.69	.68	.66	.67	.66	.64	.64	.64	.64	.63
2	.74	.69	.65	.61	.72	.67	.63	.60	.65	.62	.59	.63	.60	.57	.60	.58	.56	.56	.56	.56	.55
3	.68	.61	.56	.52	.66	.60	.56	.52	.58	.54	.51	.56	.53	.50	.55	.52	.49	.49	.49	.49	.48
4	.63	.55	.50	.45	.61	.54	.49	.45	.53	.48	.44	.51	.47	.44	.49	.46	.43	.43	.43	.43	.42
5	.58	.49	.43	.39	.56	.49	.43	.39	.47	.42	.38	.46	.41	.38	.44	.41	.38	.38	.38	.38	.36
6	.54	.45	.39	.34	.52	.44	.38	.34	.43	.38	.34	.41	.37	.33	.40	.36	.33	.33	.33	.33	.32
7	.49	.40	.34	.30	.48	.40	.34	.30	.38	.33	.30	.37	.33	.29	.37	.32	.29	.29	.29	.29	.28
8	.46	.36	.30	.26	.45	.36	.30	.26	.35	.30	.26	.34	.29	.26	.33	.29	.26	.26	.26	.26	.24
9	.42	.33	.27	.23	.41	.32	.27	.23	.31	.26	.23	.30	.26	.22	.30	.25	.22	.22	.22	.22	.21
10	.39	.30	.24	.20	.38	.29	.24	.20	.28	.23	.20	.28	.23	.20	.27	.23	.20	.20	.20	.20	.18

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES
 LUMINAIRE INPUT WATTS = 107.0
 LABORATORY RESULT MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
 BALLAST FACTORS HAVE NOT BEEN APPLIED.