



# LIGHTING SCIENCES CANADA LTD.

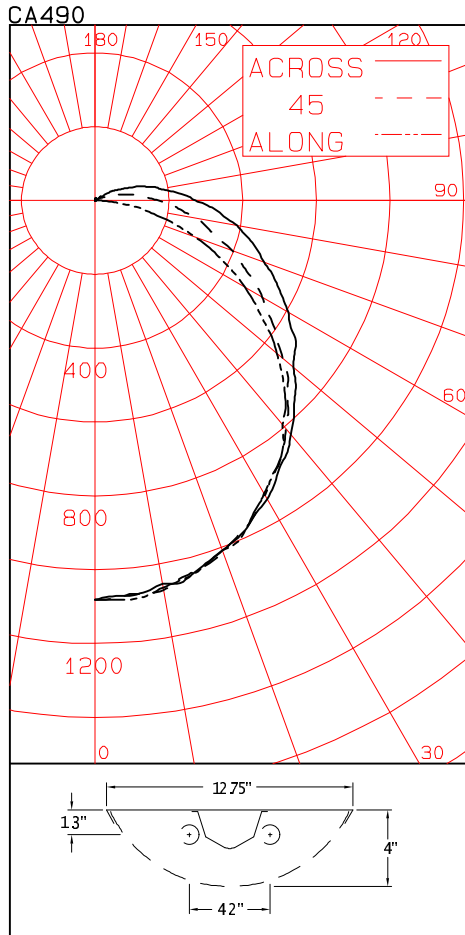
440 Phillip St., Unit 19, Waterloo, Ontario, Canada N2L 5R9  
 Tel: (519) 746-3140 Fax: (519) 746-3156 lsc@lightingsciences.ca

CERTIFIED TEST REPORT NO. LSC A490  
 COMPUTED BY LSC PROGRAM \*\*TEST-LITE\*\*

PIONEER 4' FLUORESCENT LUMINAIRE CAT. NO. ARC 248-EL  
 WITH WHITE PAINTED INTERIOR AND ROUND OPAL LENS  
 TWO F32T8/TL841 32W T8 FLUORESCENT LAMPS. LUMEN RATING = 2950 LMS.  
 ONE GE PROLINE 120V 1 OR 2-LAMP ELECTRONIC BALLAST NO. GE-232-120-N

### CANDLEPOWER SUMMARY

### OUTPUT LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	1081	1081	1081	1081	1081	
5	1085	1077	1071	1076	1074	104
15	1046	1055	1040	1047	1043	294
25	976	973	974	974	976	447
35	868	868	870	881	877	544
45	727	729	736	760	765	572
55	551	560	592	637	664	534
65	379	394	454	512	546	453
75	200	241	325	400	441	341
85	51	119	223	302	334	226
90	6	70	171	243	272	
95	2	42	129	200	229	133
105	0	0	63	114	143	67
115	0	0	4	51	69	24
125	0	0	0	9	18	4
135	0	0	0	0	0	0
145	0	0	0	0	0	0
155	0	0	0	0	0	0
165	0	0	0	0	0	0
175	0	0	0	0	0	0
180	0	0	0	0	0	0

ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	845	14.33	22.57
0-40	1389	23.55	37.10
0-60	2495	42.30	66.64
0-90	3516	59.60	93.91
40-90	2126	36.04	56.78
60-90	1020	17.29	27.24
90-180	228	3.86	6.09
0-180	3744	63.46	100.00

\*\* EFFICIENCY = 63.5% \*\*

LUMINANCE SUMMARY-CD. / SQ. M.

PAINT REFLECTANCE = .83 S/MH = 1.3  
 SC = 1.3

ANGLE	ALONG	45	ACROSS
45	4087	3238	3088
55	3817	2936	2946
65	3560	2671	2780
75	3064	2439	2735
85	2327	2415	2760

CERTIFIED BY:

*Charles Sisson*

DATE:  
 DEC 1, 2004

PREPARED FOR:

PIONEER LIGHTING  
 TORONTO, ONTARIO

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

LIGHTING SCIENCES CANADA LTD.  
 440 PHILLIP ST., UNIT 19  
 WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC A490  
 COMPUTED BY LSC PROGRAM \*\*TEST-LITE\*\*

PIONEER 4' FLUORESCENT LUMINAIRE CAT. NO. ARC 248-EL  
 WITH WHITE PAINTED INTERIOR AND ROUND OPAL LENS  
 TWO F32T8/TL841 32W T8 FLUORESCENT LAMPS. LUMEN RATING = 2950 LMS.  
 ONE GE PROLINE 120V 1 OR 2-LAMP ELECTRONIC BALLAST NO. GE-232-120-N

CANDLEPOWER DATA

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0	1081	1081	1081	1081	1081	1081	
5	1085	1077	1071	1076	1074	1076	104
10	1065	1077	1072	1063	1055	1068	
15	1046	1055	1040	1047	1043	1047	294
20	1010	1007	1013	1014	1009	1011	
25	976	973	974	974	976	974	447
30	921	918	917	924	935	922	
35	868	868	870	881	877	873	544
40	792	802	807	819	827	809	
45	727	729	736	760	765	743	572
50	644	651	666	693	703	671	
55	551	560	592	637	664	599	534
60	469	475	524	576	605	528	
65	379	394	454	512	546	455	453
70	286	315	395	459	486	389	
75	200	241	325	400	441	322	341
80	127	170	281	350	390	265	
85	51	119	223	302	334	209	226
90	6	70	171	243	272	156	
95	2	42	129	200	229	122	133
100	0	18	96	156	179	90	
105	0	0	63	114	143	62	67
110	0	0	32	76	102	40	
115	0	0	4	51	69	23	24
120	0	0	1	25	48	13	
125	0	0	0	9	18	4	4
130	0	0	0	0	1	1	
135	0	0	0	0	0	0	0
140	0	0	0	0	0	0	
145	0	0	0	0	0	0	0
150	0	0	0	0	0	0	
155	0	0	0	0	0	0	0
160	0	0	0	0	0	0	
165	0	0	0	0	0	0	0
170	0	0	0	0	0	0	
175	0	0	0	0	0	0	0
180	0	0	0	0	0	0	

LIGHTING SCIENCES CANADA LTD.  
 440 PHILLIP ST., UNIT 19  
 WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC A490  
 COMPUTED BY LSC PROGRAM \*\*TEST-LITE\*\*

PIONEER 4' FLUORESCENT LUMINAIRE CAT. NO. ARC 248-EL  
 WITH WHITE PAINTED INTERIOR AND ROUND OPAL LENS  
 TWO F32T8/TL841 32W T8 FLUORESCENT LAMPS. LUMEN RATING = 2950 LMS.  
 ONE GE PROLINE 120V 1 OR 2-LAMP ELECTRONIC BALLAST NO. GE-232-120-N

AVERAGE LUMINANCE DATA

ANGLE	ALONG	CD. / SQ. M. (FOOTLAMBERTS)			ACROSS
		22.5	45	67.5	
0	4296 ( 1254)	4296 ( 1254)	4296 ( 1254)	4296 ( 1254)	4296 ( 1254)
30	4226 ( 1233)	3882 ( 1133)	3630 ( 1059)	3504 ( 1022)	3487 ( 1017)
40	4108 ( 1199)	3696 ( 1078)	3389 ( 989)	3254 ( 949)	3214 ( 938)
45	4087 ( 1193)	3561 ( 1039)	3238 ( 945)	3130 ( 913)	3088 ( 901)
50	3983 ( 1162)	3418 ( 997)	3083 ( 899)	2988 ( 872)	2947 ( 860)
55	3817 ( 1114)	3194 ( 932)	2936 ( 856)	2903 ( 847)	2946 ( 860)
60	3729 ( 1088)	2995 ( 874)	2803 ( 818)	2805 ( 818)	2844 ( 830)
65	3560 ( 1039)	2794 ( 815)	2671 ( 779)	2700 ( 788)	2780 ( 811)
70	3323 ( 969)	2590 ( 756)	2599 ( 758)	2658 ( 775)	2700 ( 788)
75	3064 ( 894)	2364 ( 690)	2439 ( 712)	2598 ( 758)	2735 ( 798)
80	2915 ( 850)	2091 ( 610)	2484 ( 725)	2599 ( 758)	2745 ( 801)
85	2327 ( 679)	1982 ( 578)	2415 ( 704)	2662 ( 777)	2760 ( 805)

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES

LIGHTING SCIENCES CANADA LTD.  
 440 PHILLIP ST., UNIT 19  
 WATERLOO, ONTARIO

CERTIFIED TEST REPORT NO. LSC A490  
 COMPUTED BY LSC PROGRAM \*\*TEST-LITE\*\*

PIONEER 4' FLUORESCENT LUMINAIRE CAT. NO. ARC 248-EL  
 WITH WHITE PAINTED INTERIOR AND ROUND OPAL LENS  
 TWO F32T8/TL841 32W T8 FLUORESCENT LAMPS. LUMEN RATING = 2950 LMS.  
 ONE GE PROLINE 120V 1 OR 2-LAMP ELECTRONIC BALLAST NO. GE-232-120-N

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	.75	.75	.75	.75	.72	.72	.72	.72	.68	.68	.68	.65	.65	.65	.61	.61	.61	.61	.61	.61	.60
1	.67	.64	.61	.58	.65	.62	.59	.57	.59	.56	.54	.55	.54	.52	.53	.51	.50	.50	.50	.50	.48
2	.61	.55	.51	.47	.59	.54	.50	.46	.51	.47	.44	.48	.45	.43	.46	.43	.41	.41	.41	.41	.40
3	.56	.49	.43	.39	.54	.47	.42	.39	.45	.41	.37	.43	.39	.36	.41	.38	.35	.35	.35	.35	.33
4	.51	.43	.37	.33	.49	.42	.37	.33	.40	.35	.32	.38	.34	.31	.36	.33	.30	.30	.30	.30	.28
5	.46	.38	.32	.28	.45	.37	.31	.27	.35	.30	.27	.34	.29	.26	.32	.28	.25	.25	.25	.25	.24
6	.43	.34	.28	.24	.41	.33	.28	.24	.32	.27	.23	.30	.26	.23	.29	.25	.22	.22	.22	.22	.21
7	.39	.30	.25	.21	.38	.30	.24	.21	.28	.24	.20	.27	.23	.20	.26	.22	.19	.19	.19	.19	.18
8	.36	.27	.22	.18	.35	.27	.21	.18	.25	.21	.17	.24	.20	.17	.23	.20	.17	.17	.17	.17	.15
9	.33	.25	.19	.15	.32	.24	.19	.15	.23	.18	.15	.22	.18	.15	.21	.17	.14	.14	.14	.14	.13
10	.31	.22	.17	.14	.30	.22	.17	.14	.21	.16	.13	.20	.16	.13	.19	.15	.13	.13	.13	.13	.12

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES  
 LUMINAIRE INPUT WATTS = 55.7  
 LABORATORY RESULT MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.  
 BALLAST FACTORS HAVE NOT BEEN APPLIED.