



LIGHTING SCIENCES CANADA LTD.

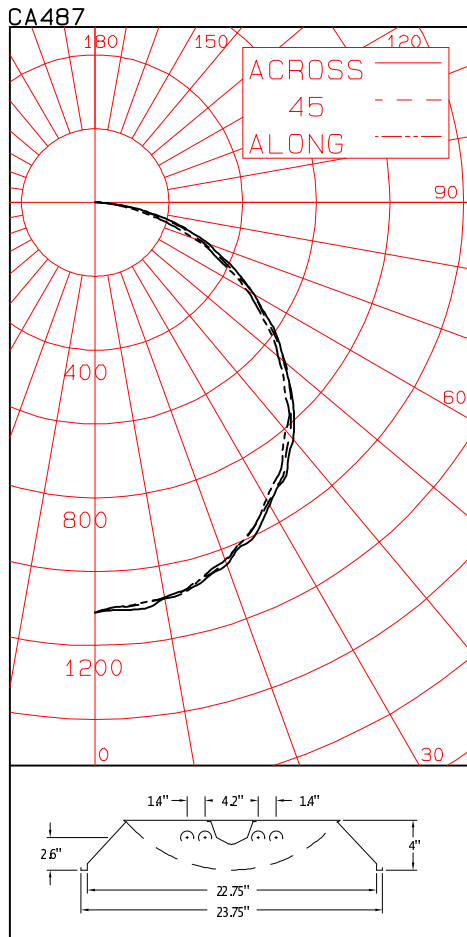
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CERTIFIED TEST REPORT NO. LSC A487
 COMPUTED BY LSC PROGRAM **TEST-LITE**

PIONEER 2'x2' RECESSED TROFFER LUMINAIRE CAT. NO. TBRL 22-424-EL
 WITH WHITE PAINTED INTERIOR AND OPAL LENS
 FOUR F17T8/TL841 17W T8 FLUORESCENT LAMPS. LUMEN RATING = 1400 LMS.
 ONE GE PROLINE 120V 3 OR 4-LAMP ELECTRONIC BALLAST NO. GE-432-120-N

CANDLEPOWER SUMMARY

OUTPUT
LUMENS



ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	1111	1111	1111	1111	1111	
5	1095	1098	1098	1100	1108	106
10	1090	1083	1086	1091	1087	
15	1066	1063	1063	1073	1073	301
20	1031	1026	1035	1045	1044	
25	990	985	988	997	1007	456
30	929	934	940	950	946	
35	881	878	894	891	904	553
40	806	807	822	832	836	
45	728	734	752	752	759	574
50	648	649	673	667	668	
55	561	567	577	587	590	514
60	475	472	496	496	498	
65	375	385	392	407	412	392
70	290	293	306	325	328	
75	192	203	223	243	237	230
80	109	125	136	147	140	
85	42	45	53	58	53	61
90	0	0	0	0	0	

ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LAMP	%LUMINAIRE
0-30	862	15.41	27.07
0-40	1415	25.28	44.40
0-60	2504	44.72	78.56
0-90	3187	56.92	100.00
40-90	1772	31.65	55.60
60-90	683	12.21	21.44
90-180	0	.00	.00
0-180	3187	56.92	100.00

** EFFICIENCY = 56.9% **

LUMINANCE SUMMARY-CD. / SQ. M.

PAINT REFLECTANCE = .81 S/MH = 1.3
 SC (ALONG) = 1.2, SC (ACROSS) = 1.3

ANGLE	ALONG	45	ACROSS
45	2953	3062	3092
55	2806	2895	2963
65	2546	2673	2808
75	2131	2469	2641
85	1377	1737	1739

CERTIFIED BY:

Charles Seison

DATE:
NOV 30, 2004

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	1111	1111	1111	1111	1111	1111	
2.5	1098	1107	1100	1103	1105	1103	
5.0	1095	1098	1098	1100	1108	1099	106
7.5	1090	1093	1093	1100	1107	1096	
10.0	1090	1083	1086	1091	1087	1087	
12.5	1086	1075	1081	1076	1079	1079	
15.0	1066	1063	1063	1073	1073	1067	301
17.5	1044	1052	1052	1057	1054	1052	
20.0	1031	1026	1035	1045	1044	1036	
22.5	1008	1011	1008	1021	1014	1013	
25.0	990	985	988	997	1007	992	456
27.5	962	963	966	969	978	967	
30.0	929	934	940	950	946	940	
32.5	901	910	916	915	919	913	
35.0	881	878	894	891	904	889	553
37.5	837	845	852	859	863	851	
40.0	806	807	822	832	836	820	
42.5	780	778	787	791	799	786	
45.0	728	734	752	752	759	745	574
47.5	692	704	712	713	713	708	
50.0	648	649	673	667	668	662	
52.5	611	613	626	626	631	622	
55.0	561	567	577	587	590	577	514
57.5	518	523	532	538	538	530	
60.0	475	472	496	496	498	488	
62.5	427	434	444	457	452	444	
65.0	375	385	392	407	412	394	392
67.5	337	340	348	368	362	351	
70.0	290	293	306	325	328	308	
72.5	235	244	268	276	276	261	
75.0	192	203	223	243	237	221	230
77.5	146	152	173	196	185	172	
80.0	109	125	136	147	140	133	
82.5	66	78	100	105	100	92	
85.0	42	45	53	58	53	51	61
87.5	5	18	13	23	24	17	
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	3186 (930)	3186 (930)	3186 (930)	3186 (930)	3186 (930)	3186 (930)
30	3076 (898)	3101 (905)	3120 (910)	3155 (920)	3135 (915)	3135 (915)
40	3016 (880)	3028 (883)	3082 (899)	3122 (911)	3131 (914)	3131 (914)
45	2953 (861)	2981 (870)	3062 (893)	3060 (893)	3092 (902)	3092 (902)
50	2893 (844)	2909 (849)	3005 (877)	2983 (870)	2982 (870)	2982 (870)
55	2806 (818)	2843 (829)	2895 (845)	2946 (860)	2963 (864)	2963 (864)
60	2728 (796)	2719 (793)	2848 (831)	2851 (832)	2856 (833)	2856 (833)
65	2546 (743)	2614 (762)	2673 (780)	2770 (808)	2808 (819)	2808 (819)
70	2430 (709)	2465 (719)	2573 (751)	2732 (797)	2751 (802)	2751 (802)
75	2131 (622)	2263 (660)	2469 (720)	2699 (788)	2641 (771)	2641 (771)
80	1799 (525)	2066 (603)	2255 (658)	2434 (710)	2314 (675)	2314 (675)
85	1377 (401)	1495 (436)	1737 (507)	1925 (562)	1739 (507)	1739 (507)

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	.68	.68	.68	.68	.66	.66	.66	.66	.63	.63	.63	.61	.61	.61	.58	.58	.58	.58	.58	.58	.57
1	.62	.60	.57	.55	.61	.59	.56	.54	.56	.54	.53	.54	.52	.51	.52	.51	.50	.50	.50	.50	.48
2	.57	.53	.49	.46	.56	.51	.48	.45	.49	.47	.44	.48	.45	.43	.46	.44	.42	.42	.42	.42	.41
3	.52	.46	.42	.38	.51	.46	.41	.38	.44	.40	.37	.42	.39	.37	.41	.38	.36	.36	.36	.36	.35
4	.48	.41	.36	.33	.47	.41	.36	.32	.39	.35	.32	.38	.34	.32	.37	.34	.31	.31	.31	.31	.30
5	.44	.37	.31	.28	.42	.36	.31	.28	.35	.30	.27	.33	.30	.27	.32	.29	.27	.27	.27	.27	.25
6	.40	.33	.28	.24	.39	.32	.27	.24	.31	.27	.24	.30	.26	.23	.29	.26	.23	.23	.23	.23	.22
7	.37	.29	.24	.21	.36	.29	.24	.21	.28	.24	.21	.27	.23	.20	.26	.23	.20	.20	.20	.20	.19
8	.34	.26	.21	.18	.33	.26	.21	.18	.25	.21	.18	.24	.21	.18	.24	.20	.18	.18	.18	.18	.16
9	.31	.24	.19	.16	.31	.23	.19	.16	.23	.18	.15	.22	.18	.15	.21	.18	.15	.15	.15	.15	.14
10	.29	.21	.17	.14	.28	.21	.17	.14	.21	.16	.14	.20	.16	.13	.20	.16	.13	.13	.13	.13	.12

DETERMINED IN ACCORDANCE WITH CURRENT IES PUBLISHED PROCEDURES
 LUMINAIRE INPUT WATTS = 55.2
 LABORATORY RESULT MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
 BALLAST FACTORS HAVE NOT BEEN APPLIED.