

CATALOG NUMBER: SH4-SP4-WW

LUMINAIRE: FABRICATED SEMI-DIFFUSE METAL HOUSING, FORMED MULTI-FACETED SPECULAR METAL REFLECTOR, FABRICATED WHITE PAINTED METAL LED DRIVER HOUSING, FOUR WHITE CIRCUIT BOARDS EACH WITH TWELVE LEDS, FOUR PIECE MOLDED WHITE PLASTIC LOUVER ASSEMBLY WITH ONE APERTURE PER LED, OPEN BOTTOM.

LAMP: FORTY-EIGHT 1-WATT WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDS), LEDS AIMED AT THE HORIZON.

TOTAL INPUT WATTS = 79.3 AT 120 VOLTS

MOUNTING: SURFACE

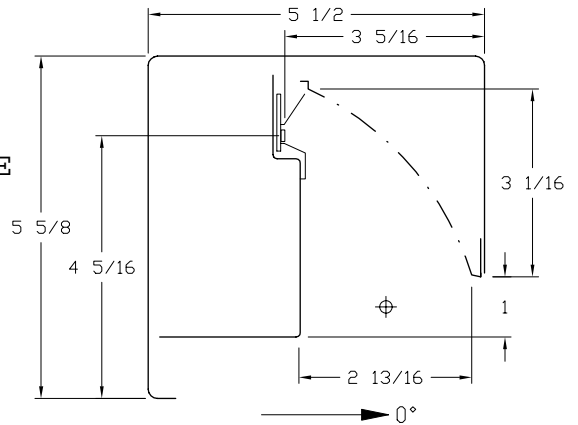
TOTAL REFLECTANCE OF PAINT= 77.6 %

LED DRIVER: PURE LIGHTING PDS3

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LED DRIVER. LAMP INFORMATION PROVIDED BY CLIENT. UPPER HEMISPHERE NOT MEASURED AT CLIENT'S REQUEST.

TEST PROCEDURE: IESNA LM-79-08

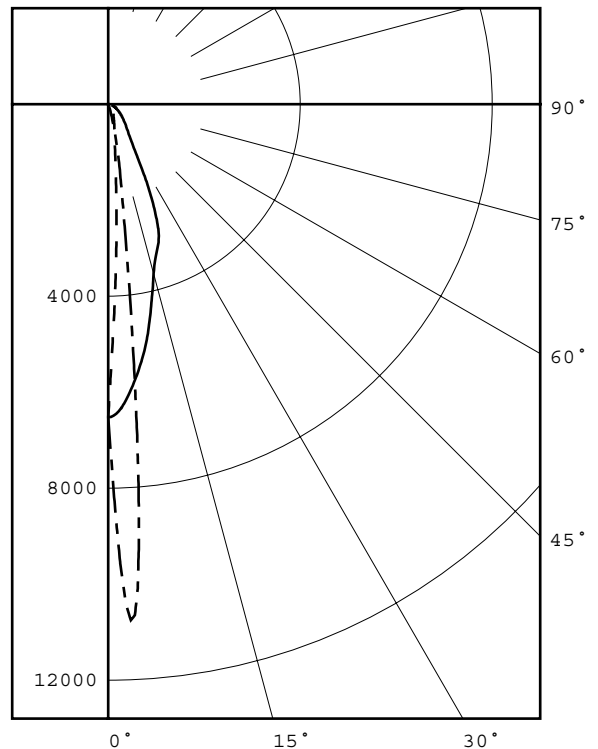
TEST DISTANCE = 25.25 FEET



CANDELA DISTRIBUTION

	0.0	45.0	90.0	135.0	180.0	
0	6518	6518	6518	6518	6518	
5	1951	2604	5887	9582	6919	430
15	498	716	3656	1005	328	450
25	262	374	2109	100	29	282
35	197	263	737	22	17	154
45	163	208	445	13	10	121
55	24	142	276	9	4	80
65	17	17	161	2	0	38
75	13	12	75	0	0	15
85	7	6	8	0	0	3
90	4	3	0	0	0	

FLUX



ZONAL LUMEN SUMMARY

ZONE	LUMENS	%FIXT
0- 30	1163	73.8
0- 40	1318	83.6
0- 60	1519	96.4
0- 90	1576	100.0
90-180	0	0.0
0-180	1576	100.0

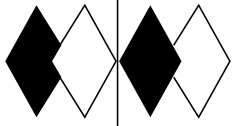
EFFICACY = 19.9 Lm/W

CIE TYPE - DIRECT

PLANE	: 0-DEG	90-DEG	180-DEG
SPACING CRITERIA	: 0.1	0.5	0.2
BEAM ANGLE (50%)	: 6.4	X 14.9	DEGREES
FIELD ANGLE (10%)	: 18.9	X 60.8	DEGREES

LEGEND:  
0-deg: - - - - -  
90-deg: = = = = =  
180-deg: - - - - -

Checked ..... *J. WATSON* .....  
Approved ..... *R. BEATTIE* .....



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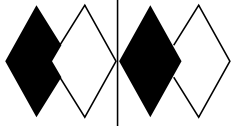
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REPORT NUMBER: ITL61526

DATE: 01/12/09

## CANDELA DISTRIBUTION LATERAL ANGLE

	0.0	22.5	45.0	67.5	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518
0.5	5677	5705	5824	6143	6365	6384	6400	6408	6428	6443	6457	6469	6488	6501
1.0	5035	5092	5332	5826	6200	6232	6261	6283	6313	6344	6378	6401	6432	6461
1.5	4511	4574	4894	5527	6029	6072	6110	6151	6189	6236	6281	6321	6363	6406
2.0	4020	4116	4495	5234	5848	5899	5948	6000	6052	6112	6172	6226	6278	6340
2.5	3577	3696	4122	4960	5655	5719	5782	5846	5906	5981	6052	6116	6186	6258
3.0	3178	3301	3763	4675	5462	5533	5605	5678	5753	5839	5921	5996	6077	6162
3.5	2821	2953	3449	4415	5275	5358	5427	5520	5600	5696	5786	5874	5965	6069
4.0	2501	2639	3137	4160	5082	5173	5253	5351	5439	5543	5649	5744	5849	5962
4.5	2212	2358	2858	3923	4902	4987	5088	5183	5284	5390	5507	5614	5727	5857
5.0	1951	2091	2604	3690	4715	4809	4913	5016	5122	5237	5364	5482	5604	5740
5.5	1727	1861	2374	3476	4531	4638	4741	4856	4968	5096	5225	5348	5481	5626
6.0	1535	1660	2155	3263	4352	4461	4569	4689	4811	4943	5076	5218	5357	5516
6.5	1378	1490	1969	3065	4185	4293	4407	4535	4661	4792	4945	5085	5239	5406
7.0	1239	1343	1791	2880	4018	4135	4249	4379	4509	4648	4800	4955	5109	5288
7.5	1130	1222	1642	2714	3856	3975	4096	4229	4365	4512	4667	4828	4986	5175
8.0	1042	1121	1506	2554	3694	3815	3941	4078	4216	4364	4528	4689	4868	5061
8.5	968	1038	1396	2405	3543	3669	3799	3931	4073	4230	4391	4565	4742	4945
9.0	901	966	1297	2268	3397	3520	3648	3783	3928	4084	4255	4432	4610	4825
9.5	847	908	1214	2143	3253	3378	3501	3642	3785	3944	4116	4296	4480	4701
10.0	797	854	1141	2022	3108	3233	3357	3497	3642	3800	3973	4157	4343	4572
11.0	717	769	1022	1814	2833	2957	3084	3218	3365	3519	3698	3881	4078	4306
12.0	649	699	926	1642	2589	2707	2823	2957	3102	3257	3435	3615	3817	4056
13.0	591	639	846	1501	2370	2481	2596	2720	2858	3013	3187	3368	3569	3813
14.0	542	587	778	1381	2169	2272	2382	2506	2636	2783	2955	3137	3339	3590
15.0	498	542	716	1276	1985	2082	2184	2299	2427	2572	2743	2924	3126	3385
16.0	460	502	661	1179	1811	1901	2002	2115	2239	2383	2551	2735	2945	3206
17.0	428	465	611	1083	1656	1746	1839	1952	2078	2221	2389	2577	2788	3061
18.0	399	434	567	997	1525	1609	1704	1815	1939	2083	2254	2445	2662	2946
19.0	371	405	529	915	1406	1489	1581	1692	1818	1961	2135	2325	2546	2836
20.0	346	380	493	841	1298	1378	1468	1576	1699	1840	2012	2207	2430	2728
22.5	295	325	424	689	1065	1133	1211	1305	1411	1537	1691	1868	2073	2350
25.0	262	285	374	585	888	940	1000	1070	1150	1242	1355	1486	1639	1850
27.5	236	257	335	518	761	798	839	886	938	997	1067	1149	1245	1375
30.0	218	237	304	468	670	697	726	759	792	830	873	919	970	1036
32.5	206	223	282	429	603	625	647	672	696	723	751	780	811	846
35.0	197	211	263	396	546	564	581	600	618	637	658	678	699	720
37.5	185	201	247	368	496	509	522	536	549	564	580	596	613	630
40.0	175	189	233	340	449	459	469	480	490	502	514	528	542	556
42.5	174	180	222	315	410	418	425	434	443	451	460	472	484	495
45.0	163	172	208	289	374	380	387	394	400	407	414	422	431	439
47.5	146	158	192	266	343	348	353	359	364	369	374	380	386	391
50.0	124	135	177	243	314	318	322	326	330	335	337	342	345	349
52.5	96	112	161	220	285	289	293	296	299	302	304	305	308	311
55.0	24	75	142	200	259	263	266	270	271	274	274	276	276	276
57.5	21	22	115	178	234	237	241	243	244	247	246	246	247	246
60.0	18	18	75	155	209	212	215	217	219	219	219	218	218	216
62.5	18	16	22	130	185	188	190	193	194	195	194	194	192	189
65.0	17	16	17	106	159	165	168	170	171	172	171	170	168	165
67.5	16	15	15	81	134	140	144	148	149	150	149	148	145	142
70.0	15	14	14	57	111	114	120	125	127	128	127	126	124	120
72.5	15	13	13	33	88	92	96	101	104	107	106	105	103	99
75.0	13	12	12	12	65	70	74	78	81	86	86	85	83	79
77.5	12	10	10	9	44	49	53	57	60	64	65	66	64	60
80.0	10	8	9	6	23	28	31	35	38	42	45	46	46	42
82.5	9	7	7	5	8	11	14	17	20	23	25	28	29	26
85.0	7	6	6	4	3	3	3	4	5	8	9	11	12	10
87.5	6	5	5	2	1	1	0	1	0	0	1	0	1	0
90.0	4	3	3	1	0	0	0	0	0	0	0	0	0	0



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## CANDELA DISTRIBUTION LATERAL ANGLE

	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0	99.0	100.0	112.5	135.0	157.5
0.0	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518	6518
0.5	6517	6531	6546	6561	6579	6595	6606	6624	6644	6663	6682	6894	7262	7398
1.0	6491	6539	6552	6583	6615	6647	6675	6708	6743	6784	6818	7250	8008	8431
1.5	6453	6479	6544	6592	6636	6682	6733	6782	6832	6887	6943	7615	8749	9420
2.0	6397	6467	6519	6582	6646	6708	6774	6841	6911	6981	7057	7969	9470	10249
2.5	6332	6406	6479	6559	6642	6719	6799	6885	6972	7069	7161	8317	10066	10694
3.0	6252	6327	6430	6527	6622	6719	6821	6917	7031	7140	7253	8660	10454	10744
3.5	6164	6287	6376	6487	6595	6708	6825	6948	7074	7204	7338	8966	10591	10399
4.0	6077	6178	6313	6436	6568	6698	6829	6970	7115	7264	7421	9226	10480	9672
4.5	5982	6107	6243	6387	6532	6681	6834	6983	7151	7314	7490	9434	10145	8763
5.0	5887	6037	6175	6333	6488	6655	6826	7000	7184	7366	7558	9582	9582	7704
5.5	5777	5925	6105	6278	6446	6626	6817	7007	7210	7410	7623	9656	8885	6584
6.0	5684	5856	6023	6210	6403	6597	6803	7010	7231	7444	7672	9646	8096	5568
6.5	5580	5760	5946	6149	6355	6569	6781	7010	7245	7476	7712	9570	7261	4662
7.0	5473	5652	5868	6085	6302	6532	6771	7002	7255	7498	7748	9412	6405	3887
7.5	5374	5582	5789	6019	6246	6488	6745	6997	7258	7508	7768	9204	5573	3254
8.0	5261	5469	5704	5946	6191	6447	6711	6979	7255	7513	7775	8912	4826	2733
8.5	5164	5375	5618	5872	6131	6400	6684	6948	7241	7503	7763	8588	4179	2344
9.0	5042	5283	5523	5788	6059	6340	6628	6915	7205	7473	7732	8187	3618	2024
9.5	4923	5151	5422	5699	5979	6272	6573	6862	7157	7424	7682	7772	3145	1793
10.0	4798	5047	5311	5601	5889	6192	6500	6793	7092	7351	7606	7276	2723	1599
11.0	4550	4797	5097	5399	5705	6023	6350	6643	6944	7191	7411	6337	2099	1292
12.0	4306	4572	4882	5203	5528	5866	6190	6501	6786	7010	7199	5459	1686	1038
13.0	4071	4361	4670	5016	5351	5704	6040	6344	6611	6814	6958	4647	1405	798
14.0	3858	4146	4480	4839	5199	5559	5896	6188	6438	6607	6698	3933	1184	606
15.0	3656	3958	4317	4692	5063	5436	5780	6056	6277	6405	6446	3339	1005	453
16.0	3496	3814	4183	4580	4969	5350	5686	5952	6136	6216	6204	2828	830	336
17.0	3363	3695	4086	4503	4910	5295	5624	5866	6007	6037	5965	2404	677	254
18.0	3259	3601	4021	4456	4879	5269	5581	5786	5885	5862	5734	2043	546	184
19.0	3164	3531	3960	4417	4844	5229	5525	5693	5737	5661	5469	1759	437	131
20.0	3062	3442	3887	4350	4785	5157	5420	5543	5528	5399	5143	1513	347	97
22.5	2678	3047	3492	3940	4336	4624	4773	4747	4599	4341	3989	1052	193	51
25.0	2109	2414	2772	3135	3416	3571	3577	3429	3191	2893	2571	733	100	34
27.5	1530	1720	1946	2150	2271	2288	2182	2007	1794	1593	1398	502	57	25
30.0	1112	1199	1286	1352	1362	1304	1198	1074	955	866	791	352	38	21
32.5	878	907	928	930	906	856	792	729	675	634	594	261	28	19
35.0	737	748	748	735	710	673	631	593	558	527	494	187	22	18
37.5	643	651	647	631	607	572	535	504	472	443	412	132	19	16
40.0	567	573	567	548	523	488	454	425	394	368	339	86	15	13
42.5	503	507	499	479	452	418	386	358	330	306	282	60	15	13
45.0	445	446	436	415	387	355	326	301	276	254	232	39	13	10
47.5	395	394	382	361	334	304	278	254	232	212	193	28	13	10
50.0	351	349	335	313	286	260	235	213	193	176	159	21	11	8
52.5	310	306	291	269	245	220	197	178	159	144	129	16	9	6
55.0	276	271	255	234	211	187	166	149	132	119	104	14	9	5
57.5	244	238	222	201	178	158	139	123	108	96	83	12	7	4
60.0	213	207	191	170	151	131	114	100	86	75	61	10	5	2
62.5	186	180	164	144	126	108	93	80	67	57	44	9	3	0
65.0	161	154	138	120	103	87	73	62	51	41	29	7	2	0
67.5	137	130	115	98	83	68	57	47	35	26	17	6	1	0
70.0	115	108	93	77	64	51	41	31	22	15	10	4	0	0
72.5	95	87	73	58	47	37	27	19	12	8	6	3	0	0
75.0	75	68	54	41	33	23	15	10	6	6	4	2	0	0
77.5	56	49	37	27	20	13	7	5	4	3	3	1	0	0
80.0	38	32	21	13	9	4	3	2	2	1	0	0	0	0
82.5	22	17	9	5	3	2	1	1	0	0	0	0	0	0
85.0	8	4	1	1	1	0	0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION  
LATERAL ANGLE

	180.0
0.0	6518
0.5	7393
1.0	8503
1.5	9565
2.0	10383
2.5	10763
3.0	10659
3.5	10094
4.0	9172
4.5	8095
5.0	6919
5.5	5779
6.0	4787
6.5	3957
7.0	3267
7.5	2725
8.0	2313
8.5	2000
9.0	1759
9.5	1565
10.0	1396
11.0	1103
12.0	838
13.0	623
14.0	453
15.0	328
16.0	243
17.0	169
18.0	120
19.0	86
20.0	63
22.5	39
25.0	29
27.5	23
30.0	20
32.5	20
35.0	17
37.5	16
40.0	13
42.5	12
45.0	10
47.5	10
50.0	8
52.5	5
55.0	4
57.5	3
60.0	1
62.5	0
65.0	0
67.5	0
70.0	0
72.5	0
75.0	0
77.5	0
80.0	0
82.5	0
85.0	0
87.5	0
90.0	0



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95	94
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87
3	103	97	92	88	101	95	91	87	93	89	86	90	87	85	88	86	83	82
4	98	91	86	82	97	90	85	81	88	84	80	86	82	80	84	81	79	77
5	94	86	81	77	93	85	80	76	84	79	76	82	78	75	80	77	74	73
6	90	82	76	72	89	81	76	72	80	75	72	78	74	71	77	74	71	69
7	87	78	73	69	85	78	72	69	76	72	68	75	71	68	74	70	68	66
8	83	75	69	66	82	74	69	65	73	69	65	72	68	65	71	67	65	63
9	80	72	66	63	79	71	66	63	70	66	63	70	65	62	69	65	62	61
10	78	69	64	60	77	69	64	60	68	63	60	67	63	60	66	63	60	59

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.

NOTE: THE ZONAL CAVITY CALCULATION TECHNIQUE IS ACCURATE WHEN LUMINAIRES WITH SYMMETRIC CANDELA DISTRIBUTIONS ARE EMPLOYED AND WHEN THE LUMINAIRES ARE LOCATED SYMMETRICALLY THROUGHOUT THE ROOM. THIS UNIT HAS SPECIAL CHARACTERISTICS AND THEREFORE THESE COEFFICIENTS SHOULD BE USED WITH CAUTION.