



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM 15180278.01  
 [TESTLAB] UL Verification Services Inc.  
 [ISSUE DATE] 10 May, 2024  
 [TEST DATE] 2/23/2024  
 [MANUFAC] H.E. WILLIAMS, INC.  
 [LUMCAT] FS-4-LS-8CS-DIM-UNV\_23W\_4000K  
 [LUMINAIRE] 45 inch Lumen/Wattage selectable, CCT selectable, LED stri  
 [MORE] p w/frosted acrylic lens  
 [LAMP] LED  
 [BALLAST] 0-10V DIMMING DRIVER

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3441
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	152
Total Luminaire Watts	22.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	3.71 ft
Luminous Width (90-270)	0.17 ft
Luminous Height	0.04 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	14829	14032	14546
55	13498	12991	13840
65	11891	11851	13091
75	9792	10624	12170
85	6771	9781	11584

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION**

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>
0.0	1082.696	1082.696	1082.696	1082.696	1082.696	1082.696	1082.696	1082.696	1082.696
0.5	1068.450	1086.886	1084.372	1084.372	1079.344	1085.210	1084.372	1088.562	1069.288
1.0	1067.612	1086.048	1082.696	1085.210	1078.506	1085.210	1082.696	1087.724	1069.288
1.5	1069.288	1086.048	1081.020	1084.372	1079.344	1085.210	1082.696	1086.886	1069.288
2.0	1069.288	1085.210	1082.696	1085.210	1078.506	1086.886	1082.696	1087.724	1068.450
2.5	1068.450	1084.372	1081.020	1084.372	1078.506	1083.534	1082.696	1086.048	1066.774
3.0	1065.936	1084.372	1080.182	1084.372	1078.506	1084.372	1081.858	1086.886	1066.774
3.5	1066.774	1082.696	1079.344	1081.858	1076.830	1082.696	1081.020	1084.372	1067.612
4.0	1064.260	1081.020	1077.668	1082.696	1077.668	1081.858	1080.182	1085.210	1065.098
4.5	1065.098	1078.506	1077.668	1081.020	1075.992	1081.858	1078.506	1083.534	1063.422
5.0	1060.908	1077.668	1075.154	1080.182	1075.992	1081.020	1077.668	1081.858	1063.422
5.5	1060.070	1077.668	1074.316	1079.344	1075.992	1080.182	1077.668	1080.182	1060.908
6.0	1058.394	1075.154	1072.640	1078.506	1073.478	1078.506	1075.154	1080.182	1060.070
6.5	1056.718	1073.478	1071.802	1075.992	1071.802	1077.668	1074.316	1078.506	1058.394
7.0	1054.204	1070.964	1070.126	1073.478	1070.126	1075.992	1073.478	1077.668	1059.232
7.5	1053.366	1070.126	1067.612	1073.478	1068.450	1074.316	1070.964	1075.992	1055.880
8.0	1051.690	1067.612	1065.936	1070.964	1068.450	1073.478	1070.126	1074.316	1054.204
8.5	1049.176	1065.098	1063.422	1068.450	1065.098	1070.964	1068.450	1071.802	1050.852
9.0	1047.500	1062.584	1060.070	1067.612	1063.422	1068.450	1065.936	1070.964	1049.176
9.5	1042.472	1060.070	1060.070	1065.936	1061.746	1067.612	1064.260	1067.612	1046.662
10.0	1041.634	1059.232	1055.880	1060.908	1060.908	1065.098	1062.584	1065.936	1045.824
10.5	1035.768	1054.204	1054.204	1060.908	1056.718	1063.422	1060.070	1062.584	1041.634
11.0	1034.930	1053.366	1051.690	1057.556	1055.042	1060.908	1055.880	1058.394	1041.634
11.5	1031.578	1049.176	1048.338	1055.042	1053.366	1057.556	1054.204	1057.556	1037.444
12.0	1028.226	1045.824	1046.662	1052.528	1050.014	1055.880	1050.852	1054.204	1033.254
12.5	1024.036	1042.472	1043.310	1050.852	1050.014	1051.690	1048.338	1050.014	1031.578
13.0	1022.360	1040.796	1039.120	1047.500	1046.662	1050.014	1045.824	1048.338	1026.550
13.5	1019.846	1036.606	1037.444	1043.310	1043.310	1046.662	1043.310	1045.824	1023.198
14.0	1014.818	1032.416	1033.254	1040.796	1039.958	1044.148	1039.120	1042.472	1019.846
14.5	1008.952	1028.226	1029.064	1037.444	1036.606	1039.958	1036.606	1039.120	1017.332
15.0	1006.438	1025.712	1027.388	1035.768	1033.254	1037.444	1032.416	1034.930	1013.142
15.5	1003.086	1023.198	1022.360	1031.578	1029.902	1033.254	1029.902	1030.740	1009.790
16.0	1000.572	1017.332	1019.008	1029.064	1025.712	1029.902	1024.874	1027.388	1003.924
16.5	993.030	1013.980	1013.980	1025.712	1022.360	1026.550	1020.684	1023.198	1003.086
17.0	988.840	1009.790	1011.466	1021.522	1019.008	1021.522	1017.332	1019.846	997.220
17.5	984.650	1004.762	1006.438	1016.494	1014.818	1017.332	1012.304	1016.494	994.706
18.0	982.136	998.896	1001.410	1011.466	1011.466	1012.304	1008.952	1009.790	989.678
18.5	977.108	995.544	997.220	1008.952	1007.276	1008.952	1003.924	1006.438	985.488
19.0	970.404	990.516	992.192	1003.924	1002.248	1004.762	1000.572	1001.410	980.460
19.5	967.052	986.326	988.002	999.734	997.220	999.734	996.382	997.220	974.594
20.0	962.024	980.460	982.974	994.706	993.030	996.382	991.354	992.192	970.404
20.5	956.158	975.432	978.784	990.516	988.840	990.516	987.164	987.164	966.214
21.0	951.968	970.404	972.918	984.650	983.812	987.164	980.460	983.812	959.510
21.5	945.264	965.376	967.890	979.622	980.460	982.974	977.108	977.946	955.320
22.0	941.074	961.186	963.700	974.594	975.432	977.108	972.080	972.918	950.292
22.5	933.532	953.644	957.834	970.404	972.080	974.594	967.052	967.052	943.588
23.0	928.504	948.616	952.806	964.538	967.052	968.728	962.862	962.024	940.236
23.5	924.314	942.750	948.616	960.348	963.700	966.214	957.834	956.996	934.370
24.0	915.934	937.722	942.750	955.320	958.672	961.186	952.806	949.454	925.990
24.5	912.582	932.694	936.884	951.130	954.482	956.996	946.940	944.426	920.962
25.0	905.878	924.314	931.856	946.940	951.968	952.806	941.912	939.398	915.934
25.5	898.336	919.286	924.314	942.750	947.778	947.778	937.722	934.370	910.906
26.0	891.632	914.258	919.286	936.046	942.750	942.750	931.856	928.504	903.364
26.5	885.766	906.716	914.258	932.694	938.560	937.722	925.990	921.800	898.336

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

27.0	880.738	900.850	909.230	926.828	931.856	932.694	920.124	915.934	891.632
27.5	873.196	895.822	903.364	922.638	927.666	926.828	915.096	910.068	884.928
28.0	867.330	887.442	895.822	917.610	923.476	921.800	908.392	903.364	879.062
28.5	861.464	881.576	890.794	911.744	918.448	916.772	903.364	897.498	873.196
29.0	854.760	874.872	884.928	906.716	913.420	910.906	897.498	891.632	865.654
29.5	848.056	869.006	879.062	900.850	907.554	905.878	892.470	884.090	858.950
30.0	839.676	862.302	873.196	894.984	902.526	900.850	885.766	878.224	851.408
30.5	833.056	855.598	866.492	889.956	897.498	894.984	879.900	871.520	844.704
31.0	826.017	848.056	860.626	884.090	892.470	889.956	873.196	864.816	839.676
31.5	820.737	840.514	854.760	878.224	886.604	884.928	868.168	858.112	830.626
32.0	811.938	835.318	848.056	873.196	881.576	879.900	862.302	851.408	824.424
32.5	806.240	827.776	841.352	867.330	876.548	874.034	854.760	843.866	818.642
33.0	798.027	821.072	833.978	862.302	872.358	869.006	848.056	836.492	809.257
33.5	790.653	813.949	827.693	857.274	866.492	862.302	842.190	830.039	803.307
34.0	783.949	806.910	822.832	850.570	861.464	857.274	836.827	823.754	797.189
34.5	776.156	799.033	815.709	844.704	856.436	851.408	830.207	815.290	788.642
35.0	770.038	792.245	809.759	839.676	850.570	845.542	823.922	808.754	783.027
35.5	762.412	784.452	803.810	834.229	846.380	839.676	816.799	800.877	773.977
36.0	753.446	776.407	796.603	828.279	840.514	835.151	810.095	793.921	767.943
36.5	745.652	769.452	791.072	822.078	835.570	829.033	803.893	786.631	760.988
37.0	739.619	761.491	783.530	817.385	830.458	823.503	796.938	779.340	755.206
37.5	731.574	754.954	777.413	811.268	825.011	816.882	791.323	772.636	747.915
38.0	722.943	747.328	770.457	805.821	819.648	811.016	784.619	765.764	739.284
38.5	715.987	739.703	764.843	799.703	813.614	805.234	777.245	758.977	731.071
39.0	707.607	731.574	757.803	793.754	807.916	799.201	771.379	752.440	723.110
39.5	699.646	723.362	751.435	787.552	802.720	793.335	764.256	745.066	713.808
40.0	691.099	716.741	744.814	781.854	797.860	788.055	757.636	738.278	705.093
40.5	683.892	709.199	738.278	775.820	791.407	782.022	751.099	729.647	696.881
41.0	674.758	700.736	731.323	770.290	784.955	776.156	744.395	722.021	688.668
41.5	667.216	692.439	725.624	764.591	780.597	769.535	737.189	712.887	680.372
42.0	658.500	685.065	718.334	758.306	774.815	764.843	730.568	704.255	672.914
42.5	650.707	677.188	711.378	752.775	769.284	758.139	723.110	696.546	664.702
43.0	642.327	670.232	704.674	746.490	763.586	751.686	716.825	687.328	656.489
43.5	635.036	663.026	697.635	740.205	758.474	745.485	710.624	679.199	649.282
44.0	627.913	654.478	691.099	734.675	752.692	740.122	702.998	670.484	640.651
44.5	617.941	646.433	683.054	728.222	746.909	734.423	697.300	662.774	633.025
45.0	610.651	638.472	677.523	722.356	741.211	727.216	690.680	654.059	625.148
45.5	603.109	630.679	669.730	716.155	734.339	721.853	683.724	647.020	617.271
46.0	594.812	624.059	663.277	709.367	728.641	716.071	677.188	638.724	608.388
46.5	587.522	616.181	656.070	702.412	723.194	709.032	670.484	631.265	601.097
47.0	578.974	607.718	649.282	697.467	717.160	704.171	664.283	623.556	593.555
47.5	570.594	600.176	642.327	690.512	711.797	698.222	657.495	615.595	583.918
48.0	564.058	592.382	635.958	685.568	704.926	690.596	650.875	607.550	577.382
48.5	554.924	584.589	629.087	677.942	699.479	684.981	644.003	599.840	567.745
49.0	549.560	578.052	622.718	672.160	693.445	678.864	636.880	592.382	560.203
49.5	542.354	569.337	615.930	666.042	686.909	672.998	628.165	584.086	552.745
50.0	533.890	562.633	609.142	659.757	681.545	666.713	621.880	576.125	546.292
50.5	525.510	556.683	600.846	653.389	675.512	660.176	614.673	568.667	539.169
51.0	517.633	549.393	595.148	646.936	669.897	653.891	606.712	560.454	529.951
51.5	509.839	542.102	587.689	641.405	664.702	647.690	599.757	555.678	521.990
52.0	501.627	533.974	581.488	635.288	658.165	641.573	592.215	548.052	513.526
52.5	494.085	526.599	574.533	628.835	652.048	635.120	585.594	541.264	505.817
53.0	485.621	518.471	567.242	622.718	645.763	629.673	578.807	533.052	498.275
53.5	477.995	510.929	560.454	616.181	639.478	622.969	571.265	525.175	489.476
54.0	469.699	503.889	554.337	609.813	632.774	616.684	565.147	517.465	480.928
54.5	461.654	495.677	549.393	602.773	627.578	610.734	557.773	509.420	473.302

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES

## CANDELA TABULATION - (Cont.)

55.0	453.023	487.967	542.940	596.740	621.293	603.947	553.583	502.130	464.839
55.5	445.146	481.096	535.817	589.868	614.505	597.494	547.046	494.420	456.459
56.0	437.268	472.716	528.778	583.164	608.807	591.460	539.840	486.459	449.000
56.5	429.726	464.922	521.739	577.131	601.768	583.751	532.298	477.911	440.453
57.0	421.514	457.045	514.951	570.259	595.734	577.382	525.258	470.453	431.486
57.5	413.804	449.922	508.582	563.890	588.527	570.427	518.052	462.073	423.609
58.0	406.262	442.045	500.956	557.354	581.656	563.723	510.677	454.615	415.648
58.5	398.134	434.252	493.917	552.829	575.287	558.192	503.722	446.822	407.184
59.0	390.676	426.710	487.632	547.968	569.086	552.829	496.096	438.525	399.726
59.5	382.631	419.335	480.258	540.091	562.047	546.544	489.308	431.235	391.178
60.0	374.921	411.877	472.632	533.555	557.940	539.588	482.018	423.609	383.972
60.5	367.128	404.251	465.509	527.605	551.907	532.884	475.565	415.397	375.089
61.0	358.664	396.709	458.889	520.063	545.706	525.677	468.107	408.357	367.212
61.5	351.038	389.083	452.185	513.107	539.169	518.806	461.319	399.977	359.251
62.0	343.245	381.625	445.313	506.571	531.879	512.605	453.526	392.603	351.122
62.5	335.535	374.335	438.442	499.783	524.756	505.063	446.989	384.726	343.245
63.0	328.077	366.709	431.486	492.995	518.052	498.442	439.782	377.351	335.535
63.5	320.200	359.586	424.447	485.705	511.431	491.487	432.408	369.642	327.826
64.0	312.071	352.128	417.743	478.917	504.560	484.783	425.620	362.016	319.446
64.5	303.691	344.669	410.285	471.794	497.185	478.330	418.246	354.642	311.652
65.0	296.401	337.798	403.329	465.006	490.398	470.956	411.542	347.100	303.775
65.5	289.110	330.340	396.458	458.721	484.113	464.168	404.838	339.558	296.149
66.0	281.149	322.965	389.921	450.844	477.073	456.961	397.296	331.932	288.272
66.5	274.194	315.842	382.715	444.391	469.699	449.922	390.676	324.474	280.562
67.0	266.568	308.887	375.759	437.352	462.911	442.464	383.134	317.267	273.272
67.5	259.361	301.680	369.139	429.978	455.537	435.844	376.765	310.144	265.814
68.0	251.903	294.725	361.681	423.860	448.833	428.972	369.474	302.769	258.607
68.5	244.612	287.853	355.312	416.235	441.877	421.514	362.351	295.563	250.562
69.0	237.322	280.395	348.440	410.033	434.838	414.978	355.480	288.775	243.439
69.5	229.612	273.439	341.653	402.659	427.715	408.106	348.859	281.484	235.478
70.0	222.657	266.568	334.530	395.871	420.592	400.648	341.653	274.026	228.355
70.5	215.701	259.193	327.909	388.664	413.721	394.111	334.781	266.819	221.148
71.0	208.075	252.657	321.205	382.296	406.765	387.072	328.077	259.696	213.690
71.5	201.204	245.618	314.920	375.424	399.810	380.620	320.954	252.657	206.316
72.0	194.081	239.249	307.714	368.133	392.771	373.413	314.585	245.953	198.606
72.5	187.042	232.377	301.261	361.513	386.234	366.876	307.630	238.746	191.399
73.0	179.919	225.925	294.389	354.306	379.027	359.502	301.010	231.791	184.863
73.5	173.215	219.388	287.937	347.183	371.821	352.714	294.389	225.003	177.572
74.0	166.343	212.601	281.484	341.150	365.200	345.843	287.518	218.215	170.701
74.5	159.052	205.729	274.445	334.027	357.994	339.222	281.317	211.176	163.410
75.0	152.097	199.444	268.160	327.658	351.625	332.183	274.864	204.723	156.790
75.5	145.812	193.075	262.043	320.619	344.669	325.479	268.076	197.852	149.918
76.0	138.857	186.706	255.590	314.334	337.882	319.027	261.959	191.567	143.130
76.5	132.572	180.505	249.305	307.630	331.010	312.071	255.339	184.779	136.929
77.0	126.370	174.304	243.020	300.842	324.138	305.619	248.718	178.494	130.309
77.5	120.002	168.187	236.903	294.557	317.853	298.831	242.433	171.874	123.940
78.0	113.465	162.069	230.869	288.021	310.814	292.462	236.400	165.924	117.571
78.5	107.264	156.287	224.668	281.652	304.445	286.093	230.282	159.807	111.286
79.0	101.147	150.337	218.886	275.199	297.741	279.557	223.997	153.941	105.337
79.5	95.532	144.471	213.187	269.082	291.624	273.858	218.215	147.907	98.968
80.0	89.834	138.605	207.321	262.629	285.507	267.238	212.182	142.041	93.269
80.5	83.968	132.991	201.539	256.763	278.803	261.288	206.567	136.762	87.403
81.0	78.269	127.627	195.924	250.562	272.769	254.920	200.869	130.979	81.956
81.5	72.822	122.180	190.226	244.696	266.568	248.970	195.254	125.700	76.426
82.0	67.459	116.985	184.779	238.830	259.948	243.104	189.639	120.504	71.062
82.5	62.515	111.622	179.332	233.467	253.914	236.903	183.941	115.393	65.951

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

83.0	57.235	106.594	173.969	227.601	248.216	231.037	178.829	110.281	60.839
83.5	52.291	101.733	168.689	221.902	242.182	225.590	173.298	105.337	55.895
84.0	47.431	96.957	163.578	216.288	236.484	220.059	168.354	100.476	51.034
84.5	42.738	92.264	158.466	211.008	230.785	214.444	163.159	95.783	46.509
85.0	38.380	87.906	153.354	205.478	225.254	208.830	158.047	91.258	41.816
85.5	34.023	83.297	148.661	200.031	219.640	203.634	153.186	86.398	37.459
86.0	29.665	79.023	143.968	195.086	214.193	198.438	148.158	82.040	33.017
86.5	25.559	74.833	139.443	189.975	208.997	193.075	143.549	77.599	28.743
87.0	21.453	70.727	134.750	185.030	203.718	188.215	139.024	73.409	24.470
87.5	17.682	66.872	130.393	180.505	198.690	183.438	134.331	69.303	20.363
88.0	13.995	62.682	126.287	175.896	194.081	178.745	130.058	65.113	16.257
88.5	10.307	59.079	122.516	171.706	189.388	174.472	126.035	61.006	12.067
89.0	6.620	55.643	118.996	167.600	185.282	170.114	122.097	57.403	8.129
89.5	3.268	52.794	115.644	163.829	181.176	166.343	118.745	54.219	4.274
90.0	1.173	50.196	112.711	160.142	177.237	162.488	115.644	51.453	1.341
90.5	0.754	48.017	109.862	156.622	173.298	158.717	112.543	49.107	0.754
91.0	0.754	46.174	107.013	153.186	169.611	155.365	109.359	47.263	0.670
91.5	0.754	44.833	104.582	149.834	166.092	152.097	106.929	45.839	0.670
92.0	0.754	43.660	102.068	146.901	162.907	149.164	104.582	44.665	0.670
92.5	0.754	42.570	100.309	144.220	159.807	146.315	102.571	43.576	0.670
93.0	0.754	41.565	98.465	141.622	156.874	143.717	100.728	42.487	0.670
93.5	0.754	40.559	96.789	139.359	154.360	141.287	98.968	41.481	0.670
94.0	0.754	39.637	95.197	137.013	151.846	139.024	97.459	40.475	0.670
94.5	0.754	38.716	93.772	135.002	149.583	136.929	95.867	39.470	0.670
95.0	0.754	37.794	92.348	132.991	147.404	134.667	94.275	38.548	0.670
95.5	0.754	36.956	90.755	130.979	144.974	132.739	92.767	37.710	0.670
96.0	0.754	36.118	89.415	128.968	142.879	130.644	91.258	36.872	0.670
96.5	0.754	35.280	87.906	127.125	140.784	128.801	89.666	35.950	0.670
97.0	0.754	34.442	86.565	125.030	138.605	126.622	88.325	35.112	0.670
97.5	0.754	33.604	85.057	123.354	136.510	124.862	86.901	34.358	0.670
98.0	0.754	32.850	83.716	121.342	134.583	122.935	85.392	33.520	0.670
98.5	0.754	32.179	82.459	119.583	132.655	121.007	84.051	32.682	0.670
99.0	0.754	31.341	80.951	117.907	130.728	119.164	82.627	31.928	0.670
99.5	0.754	30.587	79.694	116.147	128.717	117.404	81.286	31.174	0.670
100.0	0.754	29.917	78.269	114.387	126.789	115.644	79.861	30.419	0.670
100.5	0.754	29.162	77.012	112.627	124.778	113.968	78.604	29.749	0.754
101.0	0.754	28.576	75.755	110.867	123.018	112.292	77.347	28.995	0.754
101.5	0.754	27.822	74.414	109.191	121.259	110.448	75.923	28.324	0.754
102.0	0.838	27.235	73.241	107.515	119.247	108.940	74.750	27.654	0.754
102.5	0.838	26.565	71.984	105.923	117.320	107.348	73.409	26.984	0.754
103.0	0.838	25.978	70.727	104.247	115.560	105.672	72.152	26.313	0.754
103.5	0.838	25.308	69.470	102.823	113.884	103.996	70.979	25.643	0.754
104.0	0.838	24.721	68.381	101.314	112.208	102.404	69.638	24.972	0.754
104.5	0.838	24.134	67.124	99.554	110.616	100.811	68.465	24.386	0.838
105.0	0.838	23.548	66.034	98.130	108.772	99.303	67.291	23.799	0.838
105.5	0.838	22.961	64.945	96.621	107.180	97.627	66.118	23.213	0.838
106.0	0.838	22.375	63.772	95.029	105.588	96.119	64.861	22.626	0.838
106.5	0.838	21.872	62.682	93.688	103.744	94.610	63.772	22.123	0.838
107.0	0.922	21.285	61.593	92.180	102.320	93.018	62.599	21.537	0.838
107.5	0.922	20.782	60.420	90.588	100.811	91.593	61.593	21.034	0.838
108.0	0.922	20.280	59.330	89.331	99.219	90.169	60.504	20.531	0.838
108.5	0.922	19.693	58.409	87.822	97.711	88.828	59.330	19.944	0.922
109.0	0.922	19.190	57.319	86.398	96.202	87.403	58.241	19.442	0.922
109.5	0.922	18.687	56.230	84.973	94.778	85.979	57.235	18.939	0.922
110.0	0.922	18.268	55.308	83.632	93.269	84.554	56.230	18.436	0.922
110.5	0.922	17.766	54.302	82.375	91.761	83.130	55.140	17.933	0.922

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

111.0	0.922	17.263	53.297	81.035	90.420	81.956	54.135	17.514	0.922
111.5	1.006	16.844	52.375	79.778	88.996	80.532	53.045	17.011	0.922
112.0	1.006	16.341	51.369	78.353	87.655	79.191	52.124	16.509	0.922
112.5	1.006	15.922	50.364	77.264	86.230	77.934	51.118	16.090	1.006
113.0	1.006	15.503	49.526	75.839	84.806	76.677	50.112	15.587	1.006
113.5	1.006	15.084	48.436	74.582	83.381	75.252	49.191	15.168	1.006
114.0	1.006	14.581	47.598	73.409	82.208	73.995	48.269	14.749	1.006
114.5	1.006	14.162	46.677	72.152	80.783	72.822	47.263	14.246	1.006
115.0	1.006	13.827	45.755	70.979	79.526	71.565	46.258	13.827	1.006
115.5	1.006	13.324	44.833	69.805	78.185	70.308	45.336	13.408	1.006
116.0	1.006	12.989	43.995	68.465	76.928	69.135	44.414	12.989	1.089
116.5	1.006	12.570	43.073	67.375	75.671	67.962	43.576	12.654	1.089
117.0	1.006	12.151	42.151	66.118	74.331	66.705	42.654	12.235	1.089
117.5	1.006	11.732	41.313	65.029	73.157	65.532	41.732	11.816	1.089
118.0	1.006	11.397	40.559	63.772	71.900	64.358	40.894	11.397	1.089
118.5	1.006	10.978	39.721	62.682	70.727	63.185	40.056	11.062	1.089
119.0	1.006	10.643	38.883	61.593	69.470	62.096	39.218	10.643	1.089
119.5	1.006	10.224	38.045	60.504	68.213	61.006	38.380	10.307	1.089
120.0	1.006	9.888	37.207	59.247	67.040	59.749	37.459	9.888	1.089
120.5	1.006	9.553	36.369	58.325	65.783	58.660	36.704	9.553	1.173
121.0	1.006	9.134	35.615	57.152	64.526	57.571	35.866	9.218	1.173
121.5	1.006	8.715	34.861	56.062	63.520	56.481	35.112	8.799	1.173
122.0	1.006	8.380	34.107	54.973	62.180	55.392	34.358	8.464	1.173
122.5	1.006	8.045	33.269	53.883	61.090	54.219	33.604	8.129	1.173
123.0	1.006	7.710	32.514	52.878	59.917	53.213	32.766	7.793	1.173
123.5	1.006	7.374	31.760	51.788	58.744	52.207	32.012	7.458	1.173
124.0	1.006	7.039	31.090	50.699	57.654	51.118	31.257	7.123	1.173
124.5	1.006	6.704	30.336	49.693	56.565	49.945	30.503	6.788	1.257
125.0	1.006	6.369	29.581	48.688	55.476	48.939	29.749	6.453	1.257
125.5	1.006	6.034	28.827	47.682	54.302	47.934	28.995	6.117	1.257
126.0	1.006	5.782	28.073	46.760	53.213	46.928	28.241	5.782	1.257
126.5	1.006	5.447	27.403	45.755	52.124	45.922	27.570	5.447	1.257
127.0	1.006	5.112	26.732	44.749	50.950	44.917	26.900	5.196	1.257
127.5	1.006	4.860	26.062	43.827	49.945	43.911	26.146	4.860	1.257
128.0	1.006	4.525	25.308	42.822	48.939	43.073	25.475	4.609	1.341
128.5	1.006	4.274	24.553	41.900	47.934	42.151	24.805	4.358	1.341
129.0	1.006	4.022	23.883	40.894	46.844	41.146	24.134	4.106	1.341
129.5	1.006	3.855	23.296	39.973	45.839	40.224	23.464	3.939	1.341
130.0	1.089	3.603	22.710	39.051	44.833	39.302	22.877	3.687	1.341
130.5	1.089	3.436	21.956	38.213	43.827	38.464	22.207	3.520	1.425
131.0	1.089	3.268	21.369	37.375	42.822	37.459	21.537	3.352	1.425
131.5	1.089	3.101	20.782	36.453	41.816	36.621	20.950	3.184	1.425
132.0	1.089	2.933	20.112	35.615	40.811	35.699	20.280	3.017	1.425
132.5	1.089	2.765	19.525	34.693	39.889	34.861	19.693	2.849	1.425
133.0	1.089	2.682	18.939	33.771	38.967	33.939	19.106	2.765	1.508
133.5	1.089	2.598	18.268	32.933	37.961	33.101	18.436	2.682	1.508
134.0	1.089	2.514	17.598	32.095	37.123	32.179	17.849	2.598	1.508
134.5	1.089	2.430	16.928	31.257	36.118	31.341	17.263	2.514	1.508
135.0	1.089	2.346	16.257	30.419	35.196	30.503	16.676	2.430	1.508
135.5	1.089	2.263	15.671	29.498	34.274	29.665	16.090	2.346	1.508
136.0	1.089	2.179	15.000	28.660	33.352	28.827	15.503	2.263	1.508
136.5	1.089	2.179	14.414	27.905	32.431	27.989	15.000	2.263	1.592
137.0	1.089	2.095	13.743	27.151	31.509	27.151	14.414	2.179	1.592
137.5	1.089	2.095	13.157	26.313	30.671	26.397	13.827	2.179	1.592
138.0	1.089	2.011	12.570	25.475	29.833	25.559	13.324	2.095	1.592
138.5	1.089	2.011	12.067	24.721	28.995	24.805	12.821	2.095	1.592

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

139.0	1.173	2.011	11.481	23.967	28.157	23.967	12.319	2.011	1.676
139.5	1.173	1.927	10.894	23.213	27.319	23.296	11.816	2.011	1.676
140.0	1.173	1.927	10.391	22.458	26.481	22.458	11.229	2.011	1.676
140.5	1.173	1.927	9.888	21.620	25.643	21.704	10.726	1.927	1.676
141.0	1.173	1.844	9.469	20.950	24.805	20.950	10.224	1.927	1.676
141.5	1.173	1.844	8.967	20.196	23.967	20.280	9.721	1.927	1.760
142.0	1.173	1.844	8.548	19.525	23.213	19.525	9.218	1.927	1.760
142.5	1.173	1.760	8.129	18.771	22.375	18.771	8.715	1.844	1.760
143.0	1.173	1.760	7.710	18.101	21.620	18.017	8.296	1.844	1.760
143.5	1.257	1.760	7.291	17.347	20.866	17.347	7.793	1.844	1.760
144.0	1.257	1.760	6.872	16.676	20.028	16.676	7.374	1.760	1.760
144.5	1.257	1.760	6.453	16.006	19.274	15.922	6.872	1.760	1.844
145.0	1.257	1.676	6.117	15.252	18.520	15.252	6.453	1.760	1.844
145.5	1.257	1.676	5.698	14.581	17.766	14.581	6.034	1.760	1.844
146.0	1.257	1.676	5.363	13.995	17.011	13.911	5.615	1.760	1.844
146.5	1.257	1.676	5.028	13.324	16.257	13.240	5.279	1.760	1.844
147.0	1.257	1.676	4.693	12.654	15.587	12.570	4.944	1.676	1.844
147.5	1.257	1.676	4.358	11.983	14.833	11.983	4.609	1.676	1.927
148.0	1.341	1.676	4.106	11.313	14.162	11.313	4.358	1.676	1.927
148.5	1.341	1.676	3.855	10.643	13.408	10.726	4.106	1.676	1.927
149.0	1.341	1.676	3.687	9.888	12.738	10.056	3.855	1.676	1.927
149.5	1.341	1.676	3.436	9.302	12.067	9.469	3.687	1.676	1.927
150.0	1.341	1.676	3.268	8.631	11.397	8.883	3.520	1.760	1.927
150.5	1.341	1.676	3.184	8.045	10.726	8.296	3.352	1.676	2.011
151.0	1.341	1.676	3.017	7.458	10.056	7.710	3.184	1.676	2.011
151.5	1.425	1.676	2.933	6.955	9.469	7.207	3.101	1.760	2.011
152.0	1.425	1.760	2.849	6.369	8.799	6.620	2.933	1.760	2.011
152.5	1.425	1.760	2.765	5.950	8.212	6.117	2.849	1.760	2.011
153.0	1.425	1.760	2.682	5.531	7.542	5.615	2.765	1.760	2.011
153.5	1.425	1.760	2.598	5.112	6.955	5.196	2.682	1.760	2.011
154.0	1.425	1.760	2.514	4.693	6.369	4.860	2.598	1.760	2.095
154.5	1.508	1.760	2.430	4.358	5.866	4.441	2.514	1.760	2.095
155.0	1.508	1.760	2.346	4.022	5.363	4.106	2.430	1.760	2.095
155.5	1.508	1.844	2.346	3.771	4.944	3.855	2.430	1.760	2.095
156.0	1.508	1.844	2.263	3.520	4.525	3.603	2.346	1.844	2.095
156.5	1.592	1.844	2.263	3.268	4.190	3.352	2.263	1.844	2.095
157.0	1.592	1.844	2.179	3.101	3.855	3.184	2.263	1.844	2.095
157.5	1.592	1.844	2.179	3.017	3.520	3.017	2.179	1.844	2.095
158.0	1.592	1.844	2.095	2.849	3.352	2.849	2.179	1.844	2.179
158.5	1.592	1.927	2.095	2.765	3.101	2.765	2.095	1.844	2.179
159.0	1.676	1.927	2.011	2.598	2.933	2.598	2.095	1.927	2.179
159.5	1.676	1.927	2.011	2.514	2.765	2.514	2.011	1.927	2.179
160.0	1.676	1.927	2.011	2.430	2.682	2.430	2.011	1.927	2.179
160.5	1.676	1.927	1.927	2.346	2.514	2.346	2.011	1.927	2.179
161.0	1.676	1.927	1.927	2.263	2.430	2.263	1.927	1.927	2.179
161.5	1.760	1.927	1.927	2.263	2.346	2.263	1.927	1.927	2.179
162.0	1.760	2.011	1.927	2.179	2.263	2.179	1.927	1.927	2.179
162.5	1.760	2.011	1.927	2.095	2.179	2.095	1.927	2.011	2.179
163.0	1.760	2.011	1.927	2.011	2.095	2.095	1.927	2.011	2.263
163.5	1.760	2.011	1.927	2.011	2.011	2.011	1.927	2.011	2.263
164.0	1.844	2.011	1.927	1.927	2.011	1.927	1.927	2.011	2.263
164.5	1.844	2.011	1.927	1.927	1.927	1.927	1.927	2.011	2.263
165.0	1.844	2.095	1.927	1.927	1.927	1.927	1.927	2.011	2.263
165.5	1.844	2.095	1.927	1.927	1.844	1.927	1.927	2.095	2.263
166.0	1.927	2.095	2.011	1.927	1.844	1.844	2.011	2.095	2.263
166.5	1.927	2.095	2.011	1.927	1.844	1.844	2.011	2.095	2.263

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**CANDELA TABULATION - (Cont.)**

167.0	1.927	2.095	2.011	1.844	1.760	1.844	2.011	2.095	2.263
167.5	1.927	2.095	2.011	1.844	1.760	1.844	2.011	2.095	2.263
168.0	1.927	2.095	2.011	1.844	1.760	1.844	2.011	2.095	2.263
168.5	2.011	2.179	2.011	1.844	1.760	1.844	2.011	2.095	2.263
169.0	2.011	2.179	2.011	1.927	1.760	1.927	2.011	2.179	2.263
169.5	2.011	2.179	2.011	1.927	1.760	1.927	2.011	2.179	2.263
170.0	2.011	2.179	2.011	1.927	1.760	1.844	2.011	2.179	2.263
170.5	2.011	2.179	2.011	1.927	1.760	1.927	2.011	2.179	2.263
171.0	2.011	2.179	2.095	1.927	1.760	1.927	2.011	2.179	2.263
171.5	2.011	2.179	2.095	1.927	1.760	1.927	2.095	2.179	2.263
172.0	2.011	2.179	2.095	1.927	1.760	1.927	2.095	2.179	2.263
172.5	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
173.0	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
173.5	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
174.0	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
174.5	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
175.0	2.095	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
175.5	2.179	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
176.0	2.179	2.179	2.095	1.927	1.844	1.927	2.095	2.179	2.263
176.5	2.179	2.179	2.095	2.011	1.844	1.927	2.095	2.179	2.263
177.0	2.179	2.263	2.095	2.011	1.844	1.927	2.095	2.263	2.263
177.5	2.179	2.263	2.095	2.011	1.844	1.927	2.095	2.263	2.263
178.0	2.179	2.263	2.095	2.011	1.844	2.011	2.095	2.263	2.263
178.5	2.179	2.263	2.095	2.011	1.844	2.011	2.095	2.263	2.263
179.0	2.263	2.263	2.095	2.011	1.844	2.011	2.179	2.263	2.263
179.5	2.263	2.263	2.095	2.011	1.844	2.011	2.095	2.263	2.263
180.0	2.095	2.095	2.095	2.095	2.095	2.095	2.095	2.095	2.095



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	392.30	N.A.	11.40
0-30	824.06	N.A.	24.00
0-40	1336.08	N.A.	38.80
0-60	2351.96	N.A.	68.40
0-80	3031.29	N.A.	88.10
0-90	3192.81	N.A.	92.80
10-90	3090.59	N.A.	89.80
20-40	943.79	N.A.	27.40
20-50	1471.74	N.A.	42.80
40-70	1415.44	N.A.	41.10
60-80	679.33	N.A.	19.70
70-80	279.77	N.A.	8.10
80-90	161.52	N.A.	4.70
90-110	158.35	N.A.	4.60
90-120	201.13	N.A.	5.80
90-130	226.74	N.A.	6.60
90-150	245.42	N.A.	7.10
90-180	247.71	N.A.	7.20
110-180	89.37	N.A.	2.60
0-180	3440.52	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	102.22
10-20	290.07
20-30	431.76
30-40	512.03
40-50	527.95
50-60	487.92
60-70	399.57
70-80	279.77
80-90	161.52
90-100	93.53
100-110	64.82
110-120	42.78
120-130	25.62
130-140	13.28
140-150	5.40
150-160	1.53
160-170	0.57
170-180	0.20

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES

## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC RW	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	95	95	95	95	92	92	92	92	87	87	87	82	82	82	78	78	78	75
1	86	82	78	74	83	79	76	72	75	72	69	70	68	66	66	65	63	61
2	78	71	65	60	75	68	63	58	65	60	56	61	57	54	58	55	52	50
3	71	62	55	49	68	60	54	48	57	51	47	54	49	45	51	47	44	42
4	65	55	47	42	62	53	46	41	50	44	40	48	43	39	45	41	37	35
5	59	49	41	36	57	47	40	35	45	39	34	43	37	33	41	36	32	31
6	55	44	36	31	53	43	36	31	41	34	30	39	33	29	37	32	28	27
7	51	40	32	27	49	39	32	27	37	31	26	35	30	26	34	29	25	24
8	47	36	29	24	46	35	29	24	34	28	24	32	27	23	31	26	23	21
9	44	33	26	22	43	32	26	22	31	25	21	30	25	21	29	24	20	19
10	41	31	24	20	40	30	24	20	29	23	19	28	23	19	27	22	19	17

# IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV\_23W\_4000K\_.IES

## UGR TABLE - CORRECTED

### Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

### Room Size UGR Viewed Crosswise

X=2H	Y=2H	19.8	21.4	20.3	21.8	22.3	22.3	23.8	22.7	24.3	24.7
	3H	21.3	22.7	21.8	23.2	23.7	24.7	26.1	25.2	26.5	27.1
	4H	21.8	23.1	22.3	23.6	24.1	25.8	27.1	26.3	27.6	28.2
	6H	22.1	23.3	22.6	23.8	24.4	26.9	28.2	27.5	28.7	29.2
	8H	22.2	23.3	22.7	23.9	24.4	27.5	28.7	28.0	29.2	29.8
	12H	22.2	23.3	22.7	23.8	24.4	28.1	29.3	28.7	29.8	30.4

### UGR Viewed Endwise

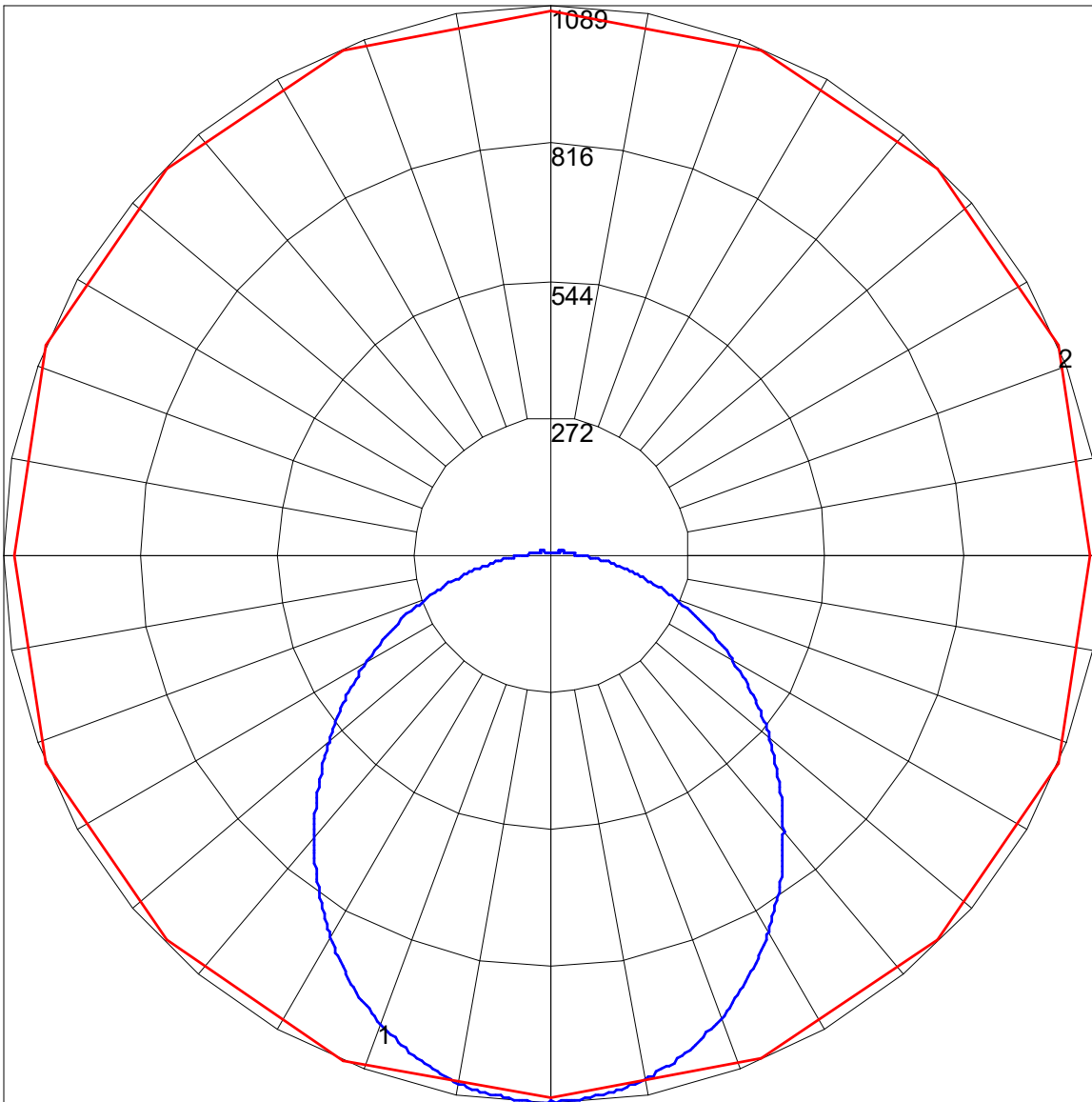
4H	2H	20.8	22.1	21.3	22.6	23.1	22.7	24.0	23.2	24.5	25.0
	3H	22.5	23.6	23.0	24.2	24.7	25.4	26.5	25.9	27.0	27.6
	4H	23.1	24.1	23.6	24.7	25.3	26.6	27.7	27.2	28.2	28.8
	6H	23.5	24.4	24.1	25.0	25.6	28.0	28.9	28.5	29.4	30.0
	8H	23.6	24.5	24.2	25.1	25.7	28.6	29.5	29.2	30.0	30.7
	12H	23.7	24.5	24.3	25.1	25.7	29.4	30.1	29.9	30.7	31.4

8H	4H	23.8	24.7	24.4	25.2	25.8	26.8	27.7	27.4	28.3	28.9
	6H	24.4	25.1	25.0	25.7	26.4	28.3	29.1	28.9	29.7	30.3
	8H	24.6	25.3	25.2	25.9	26.5	29.2	29.8	29.8	30.4	31.0
	12H	24.7	25.3	25.4	25.9	26.6	30.1	30.6	30.7	31.2	31.9

12H	4H	24.0	24.8	24.6	25.4	26.0	26.8	27.6	27.4	28.2	28.8
	6H	24.7	25.4	25.3	25.9	26.6	28.4	29.0	29.0	29.6	30.3
	8H	25.0	25.6	25.6	26.2	26.9	29.2	29.8	29.8	30.4	31.1

Maximum UGR = 31.9

POLAR GRAPH



Maximum Candela = 1088.562 Located At Horizontal Angle = 157.5, Vertical Angle = .5  
# 1 - Vertical Plane Through Horizontal Angles (157.5 - 337.5) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)