



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_5000K_.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_5000K
[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	3401
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	147
Total Luminaire Watts	23.2
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	14660	13871	14379
55	13343	12842	13681
65	11755	11715	12941
75	9679	10503	12031
85	6693	9669	11451

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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	1070.293	1070.293	1070.293	1070.293	1070.293	1070.293	1070.293	1070.293	1070.293
0.5	1056.210	1074.435	1071.950	1071.950	1066.979	1072.778	1071.950	1076.092	1057.038
1.0	1055.382	1073.606	1070.293	1072.778	1066.151	1072.778	1070.293	1075.263	1057.038
1.5	1057.038	1073.606	1068.636	1071.950	1066.979	1072.778	1070.293	1074.435	1057.038
2.0	1057.038	1072.778	1070.293	1072.778	1066.151	1074.435	1070.293	1075.263	1056.210
2.5	1056.210	1071.950	1068.636	1071.950	1066.151	1071.121	1070.293	1073.606	1054.553
3.0	1053.725	1071.950	1067.808	1071.950	1066.151	1071.950	1069.464	1074.435	1054.553
3.5	1054.553	1070.293	1066.979	1069.464	1064.494	1070.293	1068.636	1071.950	1055.382
4.0	1052.068	1068.636	1065.322	1070.293	1065.322	1069.464	1067.808	1072.778	1052.896
4.5	1052.896	1066.151	1065.322	1068.636	1063.666	1069.464	1066.151	1071.121	1051.240
5.0	1048.754	1065.322	1062.837	1067.808	1063.666	1068.636	1065.322	1069.464	1051.240
5.5	1047.926	1065.322	1062.009	1066.979	1063.666	1067.808	1065.322	1067.808	1048.754
6.0	1046.269	1062.837	1060.352	1066.151	1061.180	1066.151	1062.837	1067.808	1047.926
6.5	1044.612	1061.180	1059.524	1063.666	1059.524	1065.322	1062.009	1066.151	1046.269
7.0	1042.127	1058.695	1057.867	1061.180	1057.867	1063.666	1061.180	1065.322	1047.098
7.5	1041.299	1057.867	1055.382	1061.180	1056.210	1062.009	1058.695	1063.666	1043.784
8.0	1039.642	1055.382	1053.725	1058.695	1056.210	1061.180	1057.867	1062.009	1042.127
8.5	1037.157	1052.896	1051.240	1056.210	1052.896	1058.695	1056.210	1059.524	1038.814
9.0	1035.500	1050.411	1047.926	1055.382	1051.240	1056.210	1053.725	1058.695	1037.157
9.5	1030.530	1047.926	1047.926	1053.725	1049.583	1055.382	1052.068	1055.382	1034.672
10.0	1029.701	1047.098	1043.784	1048.754	1048.754	1052.896	1050.411	1053.725	1033.843
10.5	1023.902	1042.127	1042.127	1048.754	1044.612	1051.240	1047.926	1050.411	1029.701
11.0	1023.074	1041.299	1039.642	1045.441	1042.956	1048.754	1043.784	1046.269	1029.701
11.5	1019.760	1037.157	1036.328	1042.956	1041.299	1045.441	1042.127	1045.441	1025.559
12.0	1016.447	1033.843	1034.672	1040.470	1037.985	1043.784	1038.814	1042.127	1021.417
12.5	1012.305	1030.530	1031.358	1038.814	1037.985	1039.642	1036.328	1037.985	1019.760
13.0	1010.648	1028.873	1027.216	1035.500	1034.672	1037.985	1033.843	1036.328	1014.790
13.5	1008.163	1024.731	1025.559	1031.358	1031.358	1034.672	1031.358	1033.843	1011.476
14.0	1003.192	1020.589	1021.417	1028.873	1028.044	1032.186	1027.216	1030.530	1008.163
14.5	997.394	1016.447	1017.275	1025.559	1024.731	1028.044	1024.731	1027.216	1005.678
15.0	994.908	1013.962	1015.618	1023.902	1021.417	1025.559	1020.589	1023.074	1001.536
15.5	991.595	1011.476	1010.648	1019.760	1018.104	1021.417	1018.104	1018.932	998.222
16.0	989.110	1005.678	1007.334	1017.275	1013.962	1018.104	1013.133	1015.618	992.423
16.5	981.654	1002.364	1002.364	1013.962	1010.648	1014.790	1008.991	1011.476	991.595
17.0	977.512	998.222	999.879	1009.820	1007.334	1009.820	1005.678	1008.163	985.796
17.5	973.370	993.252	994.908	1004.849	1003.192	1005.678	1000.707	1004.849	983.311
18.0	970.885	987.453	989.938	999.879	999.879	1000.707	997.394	998.222	978.340
18.5	965.914	984.139	985.796	997.394	995.737	997.394	992.423	994.908	974.198
19.0	959.287	979.169	980.826	992.423	990.766	993.252	989.110	989.938	969.228
19.5	955.974	975.027	976.684	988.281	985.796	988.281	984.968	985.796	963.429
20.0	951.003	969.228	971.713	983.311	981.654	984.968	979.997	980.826	959.287
20.5	945.204	964.258	967.571	979.169	977.512	979.169	975.855	975.855	955.145
21.0	941.062	959.287	961.772	973.370	972.542	975.855	969.228	972.542	948.518
21.5	934.435	954.317	956.802	968.400	969.228	971.713	965.914	966.743	944.376
22.0	930.293	950.175	952.660	963.429	964.258	965.914	960.944	961.772	939.406
22.5	922.838	942.719	946.861	959.287	960.944	963.429	955.974	955.974	932.778
23.0	917.867	937.749	941.891	953.488	955.974	957.630	951.832	951.003	929.465
23.5	913.725	931.950	937.749	949.346	952.660	955.145	946.861	946.033	923.666
24.0	905.441	926.980	931.950	944.376	947.690	950.175	941.891	938.577	915.382
24.5	902.128	922.009	926.151	940.234	943.548	946.033	936.092	933.607	910.412
25.0	895.500	913.725	921.181	936.092	941.062	941.891	931.122	928.636	905.441
25.5	888.045	908.755	913.725	931.950	936.920	936.920	926.980	923.666	900.471
26.0	881.418	903.784	908.755	925.323	931.950	931.950	921.181	917.867	893.015
26.5	875.619	896.329	903.784	922.009	927.808	926.980	915.382	911.240	888.045

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CANDELA TABULATION - (Cont.)

27.0	870.648	890.530	898.814	916.210	921.181	922.009	909.583	905.441	881.418
27.5	863.193	885.560	893.015	912.068	917.039	916.210	904.613	899.642	874.790
28.0	857.394	877.276	885.560	907.098	912.897	911.240	897.986	893.015	868.992
28.5	851.595	871.477	880.589	901.299	907.926	906.270	893.015	887.216	863.193
29.0	844.968	864.850	874.790	896.329	902.956	900.471	887.216	881.418	855.737
29.5	838.341	859.051	868.992	890.530	897.157	895.500	882.246	873.962	849.110
30.0	830.057	852.424	863.193	884.731	892.187	890.530	875.619	868.163	841.654
30.5	823.512	845.796	856.566	879.761	887.216	884.731	869.820	861.536	835.027
31.0	816.554	838.341	850.767	873.962	882.246	879.761	863.193	854.909	830.057
31.5	811.335	830.885	844.968	868.163	876.447	874.790	858.222	848.282	821.110
32.0	802.637	825.749	838.341	863.193	871.477	869.820	852.424	841.654	814.980
32.5	797.004	818.294	831.714	857.394	866.506	864.021	844.968	834.199	809.264
33.0	788.885	811.666	824.424	852.424	862.364	859.051	838.341	826.909	799.986
33.5	781.595	804.625	818.211	847.453	856.566	852.424	832.542	820.530	794.104
34.0	774.968	797.666	813.406	840.826	851.595	847.453	827.240	814.317	788.057
34.5	767.264	789.879	806.365	835.027	846.625	841.654	820.696	805.950	779.607
35.0	761.217	783.169	800.483	830.057	840.826	835.856	814.483	799.489	774.057
35.5	753.678	775.465	794.601	824.672	836.684	830.057	807.441	791.702	765.110
36.0	744.814	767.513	787.477	818.791	830.885	825.583	800.814	784.826	759.146
36.5	737.110	760.637	782.010	812.660	825.998	819.536	794.684	777.619	752.270
37.0	731.146	752.767	774.554	808.021	820.944	814.069	787.808	770.412	746.554
37.5	723.193	746.306	768.507	801.974	815.560	807.524	782.258	763.785	739.347
38.0	714.661	738.767	761.631	796.589	810.258	801.726	775.631	756.992	730.814
38.5	707.785	731.229	756.081	790.542	804.294	796.010	768.341	750.282	722.696
39.0	699.501	723.193	749.122	784.660	798.660	790.045	762.542	743.820	714.826
39.5	691.631	715.075	742.826	778.530	793.524	784.246	755.501	736.530	705.631
40.0	683.181	708.531	736.282	772.897	788.720	779.027	748.956	729.820	697.016
40.5	676.057	701.075	729.820	766.933	782.341	773.063	742.495	721.288	688.897
41.0	667.028	692.708	722.945	761.465	775.962	767.264	735.868	713.749	680.779
41.5	659.572	684.507	717.312	755.832	771.655	760.720	728.743	704.720	672.578
42.0	650.957	677.217	710.104	749.619	765.939	756.081	722.199	696.187	665.205
42.5	643.253	669.430	703.229	744.152	760.471	749.453	714.826	688.566	657.087
43.0	634.969	662.554	696.602	737.939	754.838	743.075	708.613	679.454	648.969
43.5	627.762	655.430	689.643	731.726	749.785	736.945	702.483	671.418	641.844
44.0	620.720	646.980	683.181	726.258	744.069	731.643	694.945	662.803	633.312
44.5	610.862	639.028	675.229	719.880	738.353	726.010	689.312	655.182	625.773
45.0	603.655	631.158	669.761	714.081	732.720	718.886	682.767	646.566	617.986
45.5	596.199	623.454	662.057	707.951	725.927	713.584	675.892	639.608	610.199
46.0	587.998	616.909	655.679	701.241	720.294	707.868	669.430	631.406	601.418
46.5	580.791	609.123	648.554	694.365	714.909	700.909	662.803	624.034	594.211
47.0	572.342	600.756	641.844	689.477	708.945	696.105	656.673	616.412	586.756
47.5	564.058	593.300	634.969	682.602	703.643	690.223	649.963	608.543	577.229
48.0	557.596	585.596	628.673	677.714	696.850	682.684	643.418	600.590	570.768
48.5	548.566	577.892	621.880	670.176	691.465	677.134	636.625	592.969	561.241
49.0	543.265	571.430	615.584	664.460	685.501	671.087	629.584	585.596	553.785
49.5	536.140	562.815	608.874	658.412	679.039	665.288	620.969	577.395	546.413
50.0	527.774	556.188	602.164	652.199	673.738	659.075	614.756	569.525	540.034
50.5	519.490	550.306	593.963	645.903	667.773	652.614	607.631	562.152	532.993
51.0	511.703	543.099	588.330	639.525	662.223	646.401	599.762	554.034	523.880
51.5	503.999	535.892	580.957	634.057	657.087	640.270	592.886	549.312	516.010
52.0	495.880	527.856	574.827	628.010	650.625	634.223	585.430	541.774	507.644
52.5	488.425	520.567	567.951	621.631	644.578	627.844	578.886	535.064	500.022
53.0	480.058	512.531	560.744	615.584	638.365	622.460	572.176	526.945	492.567
53.5	472.519	505.075	554.034	609.123	632.152	615.833	564.720	519.158	483.868
54.0	464.318	498.117	547.987	602.827	625.525	609.620	558.673	511.537	475.419
54.5	456.366	489.999	543.099	595.868	620.389	603.738	551.383	503.584	467.880

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CANDELA TABULATION - (Cont.)

55.0	447.833	482.377	536.720	589.904	614.176	597.028	547.241	496.377	459.513
55.5	440.046	475.584	529.679	583.111	607.466	590.649	540.780	488.756	451.229
56.0	432.259	467.300	522.720	576.484	601.833	584.685	533.655	480.886	443.857
56.5	424.804	459.596	515.762	570.519	594.874	577.063	526.200	472.437	435.407
57.0	416.685	451.809	509.052	563.726	588.910	570.768	519.241	465.064	426.543
57.5	409.064	444.768	502.756	557.430	581.785	563.892	512.117	456.780	418.756
58.0	401.608	436.981	495.218	550.969	574.992	557.265	504.827	449.407	410.886
58.5	393.573	429.277	488.259	546.495	568.697	551.797	497.951	441.703	402.520
59.0	386.200	421.821	482.046	541.691	562.566	546.495	490.413	433.502	395.147
59.5	378.247	414.531	474.756	533.904	555.608	540.282	483.703	426.295	386.697
60.0	370.626	407.159	467.218	527.442	551.549	533.407	476.496	418.756	379.573
60.5	362.922	399.620	460.176	521.561	545.584	526.780	470.117	410.638	370.792
61.0	354.555	392.165	453.632	514.105	539.454	519.655	462.744	403.679	363.005
61.5	347.017	384.626	447.005	507.229	532.993	512.862	456.034	395.395	355.135
62.0	339.313	377.253	440.212	500.768	525.785	506.732	448.330	388.105	347.100
62.5	331.691	370.046	433.419	494.058	518.744	499.277	441.869	380.318	339.313
63.0	324.319	362.508	426.543	487.348	512.117	492.732	434.744	373.029	331.691
63.5	316.532	355.466	419.585	480.141	505.573	485.857	427.454	365.407	324.070
64.0	308.496	348.094	412.957	473.431	498.780	479.229	420.744	357.869	315.786
64.5	300.212	340.721	405.585	466.389	491.490	472.851	413.454	350.579	308.082
65.0	293.005	333.928	398.709	459.679	484.780	465.561	406.827	343.123	300.295
65.5	285.798	326.555	391.916	453.466	478.567	458.851	400.200	335.668	292.757
66.0	277.928	319.265	385.455	445.679	471.608	451.727	392.744	328.129	284.970
66.5	271.052	312.224	378.330	439.301	464.318	444.768	386.200	320.756	277.348
67.0	263.514	305.348	371.455	432.342	457.608	437.395	378.744	313.632	270.141
67.5	256.390	298.224	364.910	425.052	450.318	430.851	372.449	306.591	262.768
68.0	249.017	291.348	357.537	419.005	443.691	424.058	365.242	299.301	255.644
68.5	241.810	284.555	351.242	411.466	436.815	416.685	358.200	292.177	247.692
69.0	234.603	277.183	344.449	405.336	429.857	410.224	351.407	285.467	240.650
69.5	226.982	270.307	337.739	398.046	422.815	403.431	344.863	278.260	232.780
70.0	220.106	263.514	330.697	391.336	415.774	396.058	337.739	270.887	225.739
70.5	213.230	256.224	324.153	384.212	408.981	389.597	330.946	263.763	218.615
71.0	205.692	249.763	317.526	377.916	402.105	382.638	324.319	256.721	211.242
71.5	198.899	242.804	311.313	371.123	395.230	376.259	317.277	249.763	203.952
72.0	191.857	236.508	304.188	363.916	388.271	369.135	310.981	243.135	196.331
72.5	184.899	229.715	297.810	357.372	381.810	362.674	304.106	236.011	189.207
73.0	177.857	223.337	291.017	350.248	374.685	355.384	297.561	229.135	182.745
73.5	171.230	216.875	284.638	343.206	367.561	348.674	291.017	222.425	175.538
74.0	164.437	210.165	278.260	337.242	361.017	341.881	284.224	215.715	168.745
74.5	157.230	203.372	271.301	330.200	353.892	335.336	278.094	208.757	161.538
75.0	150.355	197.159	265.088	323.904	347.597	328.378	271.715	202.378	154.994
75.5	144.142	190.863	259.041	316.946	340.721	321.751	265.005	195.585	148.201
76.0	137.266	184.568	252.662	310.733	334.011	315.372	258.958	189.372	141.491
76.5	131.053	178.437	246.449	304.106	327.218	308.496	252.413	182.662	135.361
77.0	124.923	172.307	240.236	297.396	320.425	302.117	245.869	176.449	128.816
77.5	118.627	166.260	234.189	291.183	314.212	295.407	239.656	169.905	122.520
78.0	112.165	160.213	228.224	284.721	307.254	289.112	233.692	164.023	116.225
78.5	106.035	154.497	222.094	278.425	300.958	282.816	227.644	157.976	110.012
79.0	99.988	148.615	216.378	272.047	294.331	276.354	221.431	152.177	104.130
79.5	94.438	142.816	210.745	265.999	288.283	270.721	215.715	146.213	97.834
80.0	88.804	137.017	204.946	259.621	282.236	264.177	209.751	140.414	92.201
80.5	83.006	131.467	199.230	253.822	275.609	258.295	204.201	135.195	86.402
81.0	77.373	126.165	193.680	247.692	269.644	251.999	198.567	129.479	81.018
81.5	71.988	120.781	188.047	241.893	263.514	246.118	193.017	124.260	75.550
82.0	66.686	115.645	182.662	236.094	256.970	240.319	187.467	119.124	70.248
82.5	61.799	110.343	177.278	230.792	251.005	234.189	181.834	114.071	65.195

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CANDELA TABULATION - (Cont.)

83.0	56.580	105.372	171.976	224.993	245.372	228.390	176.781	109.017	60.142
83.5	51.692	100.568	166.757	219.360	239.408	223.005	171.313	104.130	55.254
84.0	46.887	95.846	161.704	213.810	233.774	217.538	166.426	99.325	50.450
84.5	42.248	91.207	156.650	208.591	228.141	211.988	161.289	94.686	45.976
85.0	37.941	86.899	151.597	203.124	222.674	206.437	156.236	90.213	41.337
85.5	33.633	82.343	146.958	197.739	217.124	201.301	151.432	85.408	37.029
86.0	29.325	78.118	142.319	192.852	211.739	196.165	146.461	81.100	32.639
86.5	25.266	73.976	137.846	187.798	206.603	190.863	141.905	76.710	28.414
87.0	21.207	69.917	133.207	182.911	201.384	186.059	137.432	72.568	24.189
87.5	17.479	66.106	128.899	178.437	196.414	181.337	132.793	68.509	20.130
88.0	13.834	61.964	124.840	173.881	191.857	176.698	128.568	64.367	16.071
88.5	10.189	58.402	121.112	169.739	187.218	172.473	124.591	60.308	11.929
89.0	6.544	55.006	117.633	165.680	183.159	168.165	120.698	56.745	8.035
89.5	3.231	52.189	114.319	161.952	179.100	164.437	117.384	53.597	4.225
90.0	1.160	49.621	111.420	158.307	175.207	160.627	114.319	50.864	1.325
90.5	0.746	47.467	108.603	154.828	171.313	156.899	111.254	48.544	0.746
91.0	0.746	45.645	105.787	151.432	167.668	153.585	108.106	46.722	0.663
91.5	0.746	44.319	103.384	148.118	164.189	150.355	105.704	45.313	0.663
92.0	0.746	43.160	100.899	145.219	161.041	147.455	103.384	44.154	0.663
92.5	0.746	42.083	99.159	142.568	157.976	144.639	101.396	43.077	0.663
93.0	0.746	41.089	97.337	140.000	155.076	142.071	99.574	42.000	0.663
93.5	0.746	40.095	95.680	137.763	152.591	139.668	97.834	41.006	0.663
94.0	0.746	39.183	94.106	135.443	150.106	137.432	96.343	40.012	0.663
94.5	0.746	38.272	92.698	133.455	147.869	135.361	94.769	39.018	0.663
95.0	0.746	37.361	91.290	131.467	145.716	133.124	93.195	38.106	0.663
95.5	0.746	36.532	89.716	129.479	143.313	131.219	91.704	37.278	0.663
96.0	0.746	35.704	88.390	127.491	141.242	129.148	90.213	36.450	0.663
96.5	0.746	34.876	86.899	125.668	139.171	127.325	88.639	35.538	0.663
97.0	0.746	34.047	85.574	123.597	137.017	125.171	87.313	34.710	0.663
97.5	0.746	33.219	84.083	121.940	134.946	123.432	85.905	33.964	0.663
98.0	0.746	32.473	82.757	119.952	133.041	121.526	84.414	33.136	0.663
98.5	0.746	31.811	81.515	118.213	131.136	119.621	83.089	32.308	0.663
99.0	0.746	30.982	80.023	116.556	129.230	117.798	81.680	31.562	0.663
99.5	0.746	30.237	78.781	114.816	127.242	116.059	80.355	30.816	0.663
100.0	0.746	29.574	77.373	113.077	125.337	114.319	78.947	30.071	0.663
100.5	0.746	28.828	76.130	111.337	123.349	112.662	77.704	29.408	0.746
101.0	0.746	28.248	74.887	109.597	121.609	111.006	76.461	28.663	0.746
101.5	0.746	27.503	73.562	107.941	119.869	109.183	75.053	28.000	0.746
102.0	0.828	26.923	72.402	106.284	117.881	107.692	73.893	27.337	0.746
102.5	0.828	26.260	71.160	104.710	115.976	106.118	72.568	26.674	0.746
103.0	0.828	25.680	69.917	103.053	114.236	104.461	71.325	26.012	0.746
103.5	0.828	25.018	68.674	101.645	112.580	102.804	70.165	25.349	0.746
104.0	0.828	24.438	67.597	100.154	110.923	101.230	68.840	24.686	0.746
104.5	0.828	23.858	66.355	98.414	109.349	99.657	67.680	24.106	0.828
105.0	0.828	23.278	65.278	97.006	107.526	98.165	66.521	23.527	0.828
105.5	0.828	22.698	64.201	95.515	105.952	96.509	65.361	22.947	0.828
106.0	0.828	22.118	63.041	93.941	104.378	95.017	64.118	22.367	0.828
106.5	0.828	21.621	61.964	92.615	102.556	93.526	63.041	21.870	0.828
107.0	0.911	21.041	60.887	91.124	101.148	91.952	61.881	21.290	0.828
107.5	0.911	20.544	59.728	89.550	99.657	90.544	60.887	20.793	0.828
108.0	0.911	20.047	58.651	88.307	98.083	89.136	59.810	20.296	0.828
108.5	0.911	19.467	57.739	86.816	96.591	87.810	58.651	19.716	0.911
109.0	0.911	18.970	56.663	85.408	95.100	86.402	57.574	19.219	0.911
109.5	0.911	18.473	55.586	84.000	93.692	84.994	56.580	18.722	0.911
110.0	0.911	18.059	54.674	82.674	92.201	83.586	55.586	18.225	0.911
110.5	0.911	17.562	53.680	81.432	90.710	82.177	54.509	17.728	0.911

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CANDELA TABULATION - (Cont.)

111.0	0.911	17.065	52.686	80.106	89.384	81.018	53.515	17.314	0.911
111.5	0.994	16.651	51.775	78.864	87.976	79.609	52.438	16.817	0.911
112.0	0.994	16.154	50.781	77.455	86.651	78.284	51.526	16.319	0.911
112.5	0.994	15.740	49.787	76.378	85.242	77.041	50.532	15.905	0.994
113.0	0.994	15.325	48.958	74.970	83.834	75.799	49.538	15.408	0.994
113.5	0.994	14.911	47.882	73.728	82.426	74.390	48.627	14.994	0.994
114.0	0.994	14.414	47.053	72.568	81.266	73.148	47.716	14.580	0.994
114.5	0.994	14.000	46.142	71.325	79.858	71.988	46.722	14.083	0.994
115.0	0.994	13.669	45.231	70.165	78.615	70.745	45.728	13.669	0.994
115.5	0.994	13.172	44.319	69.006	77.290	69.503	44.816	13.254	0.994
116.0	0.994	12.840	43.491	67.680	76.047	68.343	43.905	12.840	1.077
116.5	0.994	12.426	42.580	66.603	74.805	67.183	43.077	12.509	1.077
117.0	0.994	12.012	41.669	65.361	73.479	65.941	42.166	12.095	1.077
117.5	0.994	11.598	40.840	64.284	72.319	64.781	41.254	11.680	1.077
118.0	0.994	11.266	40.095	63.041	71.077	63.621	40.426	11.266	1.077
118.5	0.994	10.852	39.266	61.964	69.917	62.461	39.598	10.935	1.077
119.0	0.994	10.521	38.438	60.887	68.674	61.384	38.769	10.521	1.077
119.5	0.994	10.106	37.609	59.810	67.432	60.308	37.941	10.189	1.077
120.0	0.994	9.775	36.781	58.568	66.272	59.065	37.029	9.775	1.077
120.5	0.994	9.444	35.953	57.657	65.029	57.988	36.284	9.444	1.160
121.0	0.994	9.030	35.207	56.497	63.787	56.911	35.456	9.112	1.160
121.5	0.994	8.615	34.461	55.420	62.793	55.834	34.710	8.698	1.160
122.0	0.994	8.284	33.716	54.343	61.467	54.757	33.964	8.367	1.160
122.5	0.994	7.953	32.887	53.266	60.390	53.597	33.219	8.035	1.160
123.0	0.994	7.621	32.142	52.272	59.231	52.603	32.390	7.704	1.160
123.5	0.994	7.290	31.396	51.195	58.071	51.609	31.645	7.373	1.160
124.0	0.994	6.959	30.734	50.118	56.994	50.532	30.899	7.041	1.160
124.5	0.994	6.627	29.988	49.124	55.917	49.373	30.154	6.710	1.243
125.0	0.994	6.296	29.243	48.130	54.840	48.379	29.408	6.379	1.243
125.5	0.994	5.964	28.497	47.136	53.680	47.384	28.663	6.047	1.243
126.0	0.994	5.716	27.751	46.225	52.603	46.390	27.917	5.716	1.243
126.5	0.994	5.385	27.089	45.231	51.526	45.396	27.254	5.385	1.243
127.0	0.994	5.053	26.426	44.237	50.367	44.402	26.592	5.136	1.243
127.5	0.994	4.805	25.763	43.325	49.373	43.408	25.846	4.805	1.243
128.0	0.994	4.473	25.018	42.331	48.379	42.580	25.183	4.556	1.325
128.5	0.994	4.225	24.272	41.420	47.384	41.669	24.521	4.308	1.325
129.0	0.994	3.976	23.609	40.426	46.308	40.674	23.858	4.059	1.325
129.5	0.994	3.811	23.030	39.515	45.313	39.763	23.195	3.893	1.325
130.0	1.077	3.562	22.450	38.603	44.319	38.852	22.615	3.645	1.325
130.5	1.077	3.396	21.704	37.775	43.325	38.024	21.953	3.479	1.408
131.0	1.077	3.231	21.124	36.947	42.331	37.029	21.290	3.314	1.408
131.5	1.077	3.065	20.544	36.035	41.337	36.201	20.710	3.148	1.408
132.0	1.077	2.899	19.882	35.207	40.343	35.290	20.047	2.982	1.408
132.5	1.077	2.734	19.302	34.296	39.432	34.461	19.467	2.817	1.408
133.0	1.077	2.651	18.722	33.385	38.521	33.550	18.888	2.734	1.491
133.5	1.077	2.568	18.059	32.556	37.527	32.722	18.225	2.651	1.491
134.0	1.077	2.485	17.396	31.728	36.698	31.811	17.645	2.568	1.491
134.5	1.077	2.402	16.734	30.899	35.704	30.982	17.065	2.485	1.491
135.0	1.077	2.320	16.071	30.071	34.793	30.154	16.485	2.402	1.491
135.5	1.077	2.237	15.491	29.160	33.882	29.325	15.905	2.320	1.491
136.0	1.077	2.154	14.828	28.331	32.970	28.497	15.325	2.237	1.491
136.5	1.077	2.154	14.248	27.586	32.059	27.669	14.828	2.237	1.574
137.0	1.077	2.071	13.586	26.840	31.148	26.840	14.248	2.154	1.574
137.5	1.077	2.071	13.006	26.012	30.319	26.095	13.669	2.154	1.574
138.0	1.077	1.988	12.426	25.183	29.491	25.266	13.172	2.071	1.574
138.5	1.077	1.988	11.929	24.438	28.663	24.521	12.675	2.071	1.574

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CANDELA TABULATION - (Cont.)

139.0	1.160	1.988	11.349	23.692	27.834	23.692	12.177	1.988	1.657
139.5	1.160	1.905	10.769	22.947	27.006	23.030	11.680	1.988	1.657
140.0	1.160	1.905	10.272	22.201	26.177	22.201	11.101	1.988	1.657
140.5	1.160	1.905	9.775	21.373	25.349	21.456	10.604	1.905	1.657
141.0	1.160	1.822	9.361	20.710	24.521	20.710	10.106	1.905	1.657
141.5	1.160	1.822	8.864	19.964	23.692	20.047	9.609	1.905	1.740
142.0	1.160	1.822	8.450	19.302	22.947	19.302	9.112	1.905	1.740
142.5	1.160	1.740	8.035	18.556	22.118	18.556	8.615	1.822	1.740
143.0	1.160	1.740	7.621	17.893	21.373	17.811	8.201	1.822	1.740
143.5	1.243	1.740	7.207	17.148	20.627	17.148	7.704	1.822	1.740
144.0	1.243	1.740	6.793	16.485	19.799	16.485	7.290	1.740	1.740
144.5	1.243	1.740	6.379	15.822	19.053	15.740	6.793	1.740	1.822
145.0	1.243	1.657	6.047	15.077	18.308	15.077	6.379	1.740	1.822
145.5	1.243	1.657	5.633	14.414	17.562	14.414	5.964	1.740	1.822
146.0	1.243	1.657	5.302	13.834	16.817	13.751	5.550	1.740	1.822
146.5	1.243	1.657	4.970	13.172	16.071	13.089	5.219	1.740	1.822
147.0	1.243	1.657	4.639	12.509	15.408	12.426	4.888	1.657	1.822
147.5	1.243	1.657	4.308	11.846	14.663	11.846	4.556	1.657	1.905
148.0	1.325	1.657	4.059	11.183	14.000	11.183	4.308	1.657	1.905
148.5	1.325	1.657	3.811	10.521	13.254	10.604	4.059	1.657	1.905
149.0	1.325	1.657	3.645	9.775	12.592	9.941	3.811	1.657	1.905
149.5	1.325	1.657	3.396	9.195	11.929	9.361	3.645	1.657	1.905
150.0	1.325	1.657	3.231	8.533	11.266	8.781	3.479	1.740	1.905
150.5	1.325	1.657	3.148	7.953	10.604	8.201	3.314	1.657	1.988
151.0	1.325	1.657	2.982	7.373	9.941	7.621	3.148	1.657	1.988
151.5	1.408	1.657	2.899	6.876	9.361	7.124	3.065	1.740	1.988
152.0	1.408	1.740	2.817	6.296	8.698	6.544	2.899	1.740	1.988
152.5	1.408	1.740	2.734	5.882	8.118	6.047	2.817	1.740	1.988
153.0	1.408	1.740	2.651	5.467	7.456	5.550	2.734	1.740	1.988
153.5	1.408	1.740	2.568	5.053	6.876	5.136	2.651	1.740	1.988
154.0	1.408	1.740	2.485	4.639	6.296	4.805	2.568	1.740	2.071
154.5	1.491	1.740	2.402	4.308	5.799	4.391	2.485	1.740	2.071
155.0	1.491	1.740	2.320	3.976	5.302	4.059	2.402	1.740	2.071
155.5	1.491	1.822	2.320	3.728	4.888	3.811	2.402	1.740	2.071
156.0	1.491	1.822	2.237	3.479	4.473	3.562	2.320	1.822	2.071
156.5	1.574	1.822	2.237	3.231	4.142	3.314	2.237	1.822	2.071
157.0	1.574	1.822	2.154	3.065	3.811	3.148	2.237	1.822	2.071
157.5	1.574	1.822	2.154	2.982	3.479	2.982	2.154	1.822	2.071
158.0	1.574	1.822	2.071	2.817	3.314	2.817	2.154	1.822	2.154
158.5	1.574	1.905	2.071	2.734	3.065	2.734	2.071	1.822	2.154
159.0	1.657	1.905	1.988	2.568	2.899	2.568	2.071	1.905	2.154
159.5	1.657	1.905	1.988	2.485	2.734	2.485	1.988	1.905	2.154
160.0	1.657	1.905	1.988	2.402	2.651	2.402	1.988	1.905	2.154
160.5	1.657	1.905	1.905	2.320	2.485	2.320	1.988	1.905	2.154
161.0	1.657	1.905	1.905	2.237	2.402	2.237	1.905	1.905	2.154
161.5	1.740	1.905	1.905	2.237	2.320	2.237	1.905	1.905	2.154
162.0	1.740	1.988	1.905	2.154	2.237	2.154	1.905	1.905	2.154
162.5	1.740	1.988	1.905	2.071	2.154	2.071	1.905	1.988	2.154
163.0	1.740	1.988	1.905	1.988	2.071	2.071	1.905	1.988	2.237
163.5	1.740	1.988	1.905	1.988	1.988	1.988	1.905	1.988	2.237
164.0	1.822	1.988	1.905	1.905	1.988	1.905	1.905	1.988	2.237
164.5	1.822	1.988	1.905	1.905	1.905	1.905	1.905	1.988	2.237
165.0	1.822	2.071	1.905	1.905	1.905	1.905	1.905	1.988	2.237
165.5	1.822	2.071	1.905	1.905	1.822	1.905	1.905	2.071	2.237
166.0	1.905	2.071	1.988	1.905	1.822	1.822	1.988	2.071	2.237
166.5	1.905	2.071	1.988	1.905	1.822	1.822	1.988	2.071	2.237

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CANDELA TABULATION - (Cont.)

167.0	1.905	2.071	1.988	1.822	1.740	1.822	1.988	2.071	2.237
167.5	1.905	2.071	1.988	1.822	1.740	1.822	1.988	2.071	2.237
168.0	1.905	2.071	1.988	1.822	1.740	1.822	1.988	2.071	2.237
168.5	1.988	2.154	1.988	1.822	1.740	1.822	1.988	2.071	2.237
169.0	1.988	2.154	1.988	1.905	1.740	1.905	1.988	2.154	2.237
169.5	1.988	2.154	1.988	1.905	1.740	1.905	1.988	2.154	2.237
170.0	1.988	2.154	1.988	1.905	1.740	1.822	1.988	2.154	2.237
170.5	1.988	2.154	1.988	1.905	1.740	1.905	1.988	2.154	2.237
171.0	1.988	2.154	2.071	1.905	1.740	1.905	1.988	2.154	2.237
171.5	1.988	2.154	2.071	1.905	1.740	1.905	2.071	2.154	2.237
172.0	1.988	2.154	2.071	1.905	1.740	1.905	2.071	2.154	2.237
172.5	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
173.0	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
173.5	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
174.0	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
174.5	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
175.0	2.071	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
175.5	2.154	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
176.0	2.154	2.154	2.071	1.905	1.822	1.905	2.071	2.154	2.237
176.5	2.154	2.154	2.071	1.988	1.822	1.905	2.071	2.154	2.237
177.0	2.154	2.237	2.071	1.988	1.822	1.905	2.071	2.237	2.237
177.5	2.154	2.237	2.071	1.988	1.822	1.905	2.071	2.237	2.237
178.0	2.154	2.237	2.071	1.988	1.822	1.988	2.071	2.237	2.237
178.5	2.154	2.237	2.071	1.988	1.822	1.988	2.071	2.237	2.237
179.0	2.237	2.237	2.071	1.988	1.822	1.988	2.154	2.237	2.237
179.5	2.237	2.237	2.071	1.988	1.822	1.988	2.071	2.237	2.237
180.0	2.071	2.071	2.071	2.071	2.071	2.071	2.071	2.071	2.071

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_5000K_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	387.80	N.A.	11.40
0-30	814.62	N.A.	24.00
0-40	1320.78	N.A.	38.80
0-60	2325.01	N.A.	68.40
0-80	2996.56	N.A.	88.10
0-90	3156.23	N.A.	92.80
10-90	3055.18	N.A.	89.80
20-40	932.98	N.A.	27.40
20-50	1454.88	N.A.	42.80
40-70	1399.23	N.A.	41.10
60-80	671.55	N.A.	19.70
70-80	276.56	N.A.	8.10
80-90	159.67	N.A.	4.70
90-110	156.54	N.A.	4.60
90-120	198.82	N.A.	5.80
90-130	224.14	N.A.	6.60
90-150	242.61	N.A.	7.10
90-180	244.88	N.A.	7.20
110-180	88.34	N.A.	2.60
0-180	3401.11	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	101.05
10-20	286.75
20-30	426.82
30-40	506.16
40-50	521.90
50-60	482.33
60-70	394.99
70-80	276.56
80-90	159.67
90-100	92.46
100-110	64.08
110-120	42.29
120-130	25.32
130-140	13.13
140-150	5.34
150-160	1.51
160-170	0.57
170-180	0.19

IES INDOOR REPORT
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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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93
1	106	100	96	91	102	97	93	89	92	88	85	87	84	81	82	79	77	75
2	96	87	80	73	92	84	78	72	80	74	69	75	71	66	71	67	64	61
3	87	76	67	61	84	74	66	60	70	63	58	66	60	56	63	58	54	51
4	80	67	58	51	77	65	57	50	62	55	49	59	52	47	56	50	46	44
5	73	60	51	44	70	58	50	43	55	48	42	53	46	41	50	44	40	38
6	67	54	45	38	65	53	44	38	50	42	37	48	41	36	45	40	35	33
7	63	49	40	34	60	48	39	33	45	38	33	43	37	32	41	36	31	29
8	58	44	36	30	56	43	35	30	42	34	29	40	33	28	38	32	28	26
9	54	41	33	27	53	40	32	27	38	31	26	37	30	26	35	29	25	23
10	51	38	30	24	49	37	29	24	35	28	24	34	28	23	33	27	23	21

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_5000K_.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	19.1	20.7	19.6	21.1	21.6	21.6	23.1	22.0	23.6	24.0
	3H	20.6	22.0	21.1	22.5	23.0	24.0	25.4	24.5	25.8	26.4
	4H	21.1	22.4	21.6	22.9	23.4	25.1	26.4	25.6	26.9	27.5
	6H	21.4	22.6	21.9	23.1	23.7	26.2	27.5	26.8	28.0	28.5
	8H	21.5	22.6	22.0	23.2	23.7	26.8	28.0	27.3	28.5	29.1
	12H	21.5	22.6	22.0	23.1	23.7	27.4	28.6	28.0	29.1	29.7

UGR Viewed Endwise

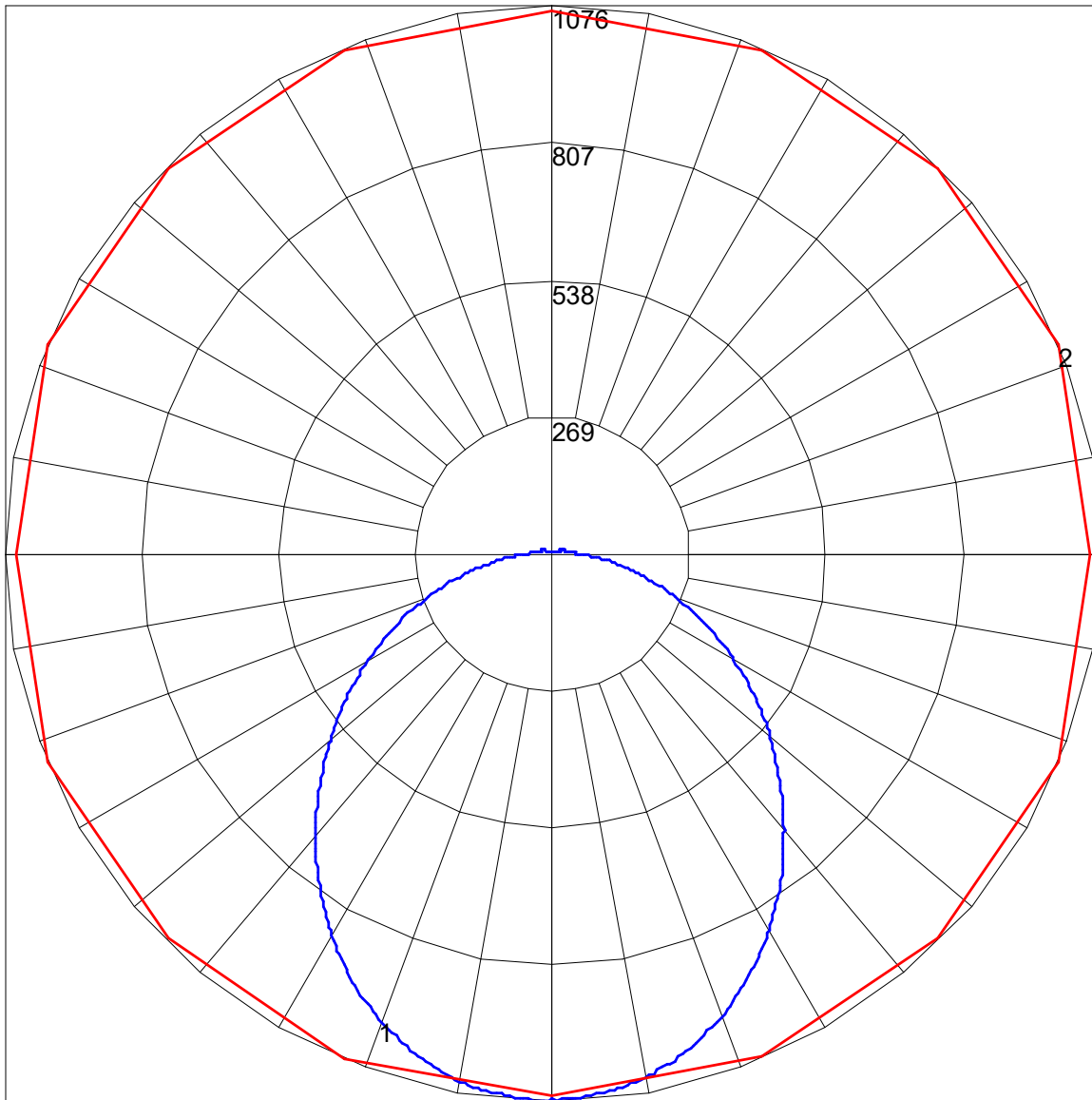
4H	2H	20.1	21.4	20.6	21.9	22.4	22.0	23.3	22.5	23.8	24.3
	3H	21.8	22.9	22.3	23.5	24.0	24.7	25.8	25.2	26.3	26.9
	4H	22.4	23.4	22.9	24.0	24.6	25.9	27.0	26.5	27.5	28.1
	6H	22.8	23.7	23.4	24.3	24.9	27.3	28.2	27.8	28.7	29.3
	8H	22.9	23.8	23.5	24.4	25.0	27.9	28.8	28.5	29.3	30.0
	12H	23.0	23.8	23.6	24.4	25.0	28.7	29.4	29.2	30.0	30.7

8H	4H	23.1	24.0	23.7	24.5	25.1	26.1	27.0	26.7	27.6	28.2
	6H	23.7	24.4	24.3	25.0	25.7	27.6	28.4	28.2	29.0	29.6
	8H	23.9	24.6	24.5	25.2	25.8	28.5	29.1	29.1	29.7	30.3
	12H	24.0	24.6	24.7	25.2	25.9	29.4	29.9	30.0	30.5	31.2

12H	4H	23.3	24.1	23.9	24.7	25.3	26.1	26.9	26.7	27.5	28.1
	6H	24.0	24.7	24.6	25.2	25.9	27.7	28.3	28.3	28.9	29.6
	8H	24.3	24.9	24.9	25.5	26.2	28.5	29.1	29.1	29.7	30.4

Maximum UGR = 31.2

POLAR GRAPH



Maximum Candela = 1076.092 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.)