

IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_3500K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM 15180278.01

[TESTLAB] UL Verification Services Inc.

[ISSUE DATE] 2025-03-20

[TEST DATE] 2/23/2024

[MANUFAC] WILLIAMS INDOOR, H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMCAT] FS-4-LS-8CS-DIM-UNV_23W_3500K_

[LUMINAIRE] 45 INCH, 224 LEDS, LUMEN/WATTAGE/CCT SELECTABLE, LED STRIP

[MORE] WITH FROSTED ACRYLIC LENS

[SEARCH_APPLICATION] Indoor, Commercial, Industrial, Manufacturing, Utility, Warehouse, Linear

[SEARCH_MOUNTING] Surface, Suspended

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3144
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	135
Total Luminaire Watts	23.3
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	13550	12821	13291
55	12333	11870	12646
65	10865	10828	11962
75	8947	9708	11120
85	6187	8937	10585

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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	989.296	989.296	989.296	989.296	989.296	989.296	989.296	989.296	989.296
0.5	976.279	993.124	990.827	990.827	986.233	991.593	990.827	994.656	977.044
1.0	975.513	992.358	989.296	991.593	985.467	991.593	989.296	993.890	977.044
1.5	977.044	992.358	987.764	990.827	986.233	991.593	989.296	993.124	977.044
2.0	977.044	991.593	989.296	991.593	985.467	993.124	989.296	993.890	976.279
2.5	976.279	990.827	987.764	990.827	985.467	990.061	989.296	992.358	974.747
3.0	973.981	990.827	986.998	990.827	985.467	990.827	988.530	993.124	974.747
3.5	974.747	989.296	986.233	988.530	983.936	989.296	987.764	990.827	975.513
4.0	972.450	987.764	984.701	989.296	984.701	988.530	986.998	991.593	973.216
4.5	973.216	985.467	984.701	987.764	983.170	988.530	985.467	990.061	971.684
5.0	969.387	984.701	982.404	986.998	983.170	987.764	984.701	988.530	971.684
5.5	968.621	984.701	981.639	986.233	983.170	986.998	984.701	986.998	969.387
6.0	967.090	982.404	980.107	985.467	980.873	985.467	982.404	986.998	968.621
6.5	965.559	980.873	979.341	983.170	979.341	984.701	981.639	985.467	967.090
7.0	963.262	978.576	977.810	980.873	977.810	983.170	980.873	984.701	967.856
7.5	962.496	977.810	975.513	980.873	976.279	981.639	978.576	983.170	964.793
8.0	960.964	975.513	973.981	978.576	976.279	980.873	977.810	981.639	963.262
8.5	958.667	973.216	971.684	976.279	973.216	978.576	976.279	979.341	960.199
9.0	957.136	970.919	968.621	975.513	971.684	976.279	973.981	978.576	958.667
9.5	952.542	968.621	968.621	973.981	970.153	975.513	972.450	975.513	956.370
10.0	951.776	967.856	964.793	969.387	969.387	973.216	970.919	973.981	955.604
10.5	946.416	963.262	963.262	969.387	965.559	971.684	968.621	970.919	951.776
11.0	945.650	962.496	960.964	966.324	964.027	969.387	964.793	967.090	951.776
11.5	942.587	958.667	957.902	964.027	962.496	966.324	963.262	966.324	947.947
12.0	939.525	955.604	956.370	961.730	959.433	964.793	960.199	963.262	944.119
12.5	935.696	952.542	953.307	960.199	959.433	960.964	957.902	959.433	942.587
13.0	934.165	951.010	949.479	957.136	956.370	959.433	955.604	957.902	937.993
13.5	931.867	947.182	947.947	953.307	953.307	956.370	953.307	955.604	934.930
14.0	927.273	943.353	944.119	951.010	950.244	954.073	949.479	952.542	931.867
14.5	921.913	939.525	940.290	947.947	947.182	950.244	947.182	949.479	929.570
15.0	919.616	937.227	938.759	946.416	944.119	947.947	943.353	945.650	925.742
15.5	916.553	934.930	934.165	942.587	941.056	944.119	941.056	941.822	922.679
16.0	914.256	929.570	931.102	940.290	937.227	941.056	936.462	938.759	917.319
16.5	907.365	926.508	926.508	937.227	934.165	937.993	932.633	934.930	916.553
17.0	903.536	922.679	924.210	933.399	931.102	933.399	929.570	931.867	911.193
17.5	899.708	918.085	919.616	928.805	927.273	929.570	924.976	928.805	908.896
18.0	897.411	912.725	915.022	924.210	924.210	924.976	921.913	922.679	904.302
18.5	892.816	909.662	911.193	921.913	920.382	921.913	917.319	919.616	900.473
19.0	886.691	905.068	906.599	917.319	915.788	918.085	914.256	915.022	895.879
19.5	883.628	901.239	902.771	913.490	911.193	913.490	910.428	911.193	890.519
20.0	879.034	895.879	898.176	908.896	907.365	910.428	905.833	906.599	886.691
20.5	873.674	891.285	894.348	905.068	903.536	905.068	902.005	902.005	882.862
21.0	869.845	886.691	888.988	899.708	898.942	902.005	895.879	898.942	876.736
21.5	863.719	882.096	884.394	895.113	895.879	898.176	892.816	893.582	872.908
22.0	859.891	878.268	880.565	890.519	891.285	892.816	888.222	888.988	868.314
22.5	852.999	871.376	875.205	886.691	888.222	890.519	883.628	883.628	862.188
23.0	848.405	866.782	870.611	881.331	883.628	885.159	879.799	879.034	859.125
23.5	844.577	861.422	866.782	877.502	880.565	882.862	875.205	874.439	853.765
24.0	836.920	856.828	861.422	872.908	875.971	878.268	870.611	867.548	846.108
24.5	833.857	852.234	856.062	869.079	872.142	874.439	865.251	862.954	841.514
25.0	827.731	844.577	851.468	865.251	869.845	870.611	860.657	858.359	836.920
25.5	820.840	839.982	844.577	861.422	866.017	866.017	856.828	853.765	832.325
26.0	814.714	835.388	839.982	855.297	861.422	861.422	851.468	848.405	825.434
26.5	809.354	828.497	835.388	852.234	857.594	856.828	846.108	842.280	820.840

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CANDELA TABULATION - (Cont.)

27.0	804.760	823.137	830.794	846.874	851.468	852.234	840.748	836.920	814.714
27.5	797.868	818.543	825.434	843.045	847.640	846.874	836.154	831.560	808.588
28.0	792.508	810.885	818.543	838.451	843.811	842.280	830.028	825.434	803.228
28.5	787.149	805.526	813.948	833.091	839.217	837.685	825.434	820.074	797.868
29.0	781.023	799.400	808.588	828.497	834.622	832.325	820.074	814.714	790.977
29.5	774.897	794.040	803.228	823.137	829.263	827.731	815.480	807.823	784.851
30.0	767.240	787.914	797.868	817.777	824.668	823.137	809.354	802.463	777.960
30.5	761.191	781.789	791.743	813.183	820.074	817.777	803.994	796.337	771.834
31.0	754.759	774.897	786.383	807.823	815.480	813.183	797.868	790.211	767.240
31.5	749.935	768.006	781.023	802.463	810.120	808.588	793.274	784.086	758.970
32.0	741.895	763.258	774.897	797.868	805.526	803.994	787.914	777.960	753.304
32.5	736.688	756.367	768.772	792.508	800.931	798.634	781.023	771.069	748.021
33.0	729.184	750.241	762.033	787.914	797.103	794.040	774.897	764.330	739.445
33.5	722.446	743.733	756.290	783.320	791.743	787.914	769.537	758.434	734.008
34.0	716.320	737.301	751.849	777.194	787.149	783.320	764.637	752.692	728.419
34.5	709.199	730.103	745.341	771.834	782.554	777.960	758.588	744.958	720.608
35.0	703.610	723.901	739.904	767.240	777.194	772.600	752.845	738.985	715.478
35.5	696.642	716.780	734.468	762.263	773.366	767.240	746.336	731.788	707.209
36.0	688.449	709.429	727.883	756.826	768.006	763.105	740.211	725.432	701.695
36.5	681.328	703.074	722.829	751.160	763.488	757.516	734.544	718.771	695.340
37.0	675.814	695.799	715.938	746.872	758.817	752.462	728.189	712.109	690.057
37.5	668.464	689.827	710.348	741.283	753.840	746.413	723.059	705.983	683.395
38.0	660.577	682.859	703.993	736.305	748.940	741.053	716.933	699.705	675.508
38.5	654.222	675.891	698.862	730.716	743.427	735.769	710.195	693.502	668.004
39.0	646.564	668.464	692.430	725.279	738.220	730.256	704.835	687.530	660.730
39.5	639.290	660.960	686.611	719.613	733.472	724.896	698.326	680.792	652.231
40.0	631.480	654.911	680.562	714.406	729.031	720.072	692.277	674.589	644.267
40.5	624.895	648.019	674.589	708.893	723.135	714.559	686.305	666.703	636.763
41.0	616.549	640.286	668.234	703.839	717.239	709.199	680.179	659.735	629.259
41.5	609.657	632.705	663.027	698.633	713.258	703.150	673.594	651.388	621.679
42.0	601.694	625.967	656.365	692.890	707.974	698.862	667.545	643.502	614.864
42.5	594.573	618.769	650.010	687.836	702.921	692.737	660.730	636.457	607.360
43.0	586.916	612.414	643.884	682.093	697.714	686.841	654.987	628.034	599.856
43.5	580.254	605.829	637.452	676.350	693.043	681.174	649.321	620.607	593.271
44.0	573.746	598.018	631.480	671.297	687.760	676.274	642.353	612.644	585.384
44.5	564.634	590.668	624.129	665.401	682.476	671.067	637.146	605.599	578.416
45.0	557.972	583.393	619.075	660.041	677.269	664.482	631.097	597.636	571.219
45.5	551.081	576.272	611.954	654.375	670.991	659.581	624.742	591.204	564.021
46.0	543.500	570.223	606.058	648.172	665.784	654.298	618.769	583.623	555.905
46.5	536.838	563.026	599.473	641.817	660.807	647.866	612.644	576.808	549.243
47.0	529.028	555.292	593.271	637.299	655.293	643.425	606.977	569.764	542.351
47.5	521.371	548.401	586.916	630.944	650.393	637.988	600.775	562.490	533.546
48.0	515.399	541.279	581.096	626.426	644.114	631.021	594.726	555.139	527.573
48.5	507.052	534.158	574.818	619.458	639.137	625.890	588.447	548.094	518.768
49.0	502.152	528.186	568.998	614.175	633.624	620.301	581.939	541.279	511.876
49.5	495.567	520.222	562.796	608.585	627.651	614.941	573.975	533.699	505.061
50.0	487.833	514.097	556.594	602.842	622.751	609.198	568.232	526.425	499.165
50.5	480.176	508.660	549.013	597.023	617.238	603.225	561.647	519.610	492.657
51.0	472.978	501.999	543.806	591.127	612.108	597.482	554.373	512.106	484.234
51.5	465.857	495.337	536.992	586.073	607.360	591.816	548.018	507.741	476.960
52.0	458.353	487.910	531.325	580.484	601.388	586.227	541.126	500.773	469.226
52.5	451.462	481.171	524.970	574.588	595.798	580.331	535.077	494.571	462.182
53.0	443.728	473.744	518.308	568.998	590.055	575.354	528.875	487.067	455.290
53.5	436.760	466.853	512.106	563.026	584.312	569.228	521.984	479.870	447.250
54.0	429.180	460.421	506.516	557.206	578.187	563.485	516.394	472.825	439.440
54.5	421.829	452.917	501.999	550.774	573.439	558.048	509.656	465.474	432.472

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CANDELA TABULATION - (Cont.)

55.0	413.942	445.872	496.103	545.261	567.696	551.846	505.827	458.813	424.739
55.5	406.744	439.593	489.594	538.982	561.494	545.950	499.855	451.768	417.082
56.0	399.547	431.936	483.162	532.857	556.287	540.437	493.270	444.494	410.267
56.5	392.655	424.815	476.730	527.344	549.855	533.393	486.378	436.684	402.456
57.0	385.151	417.618	470.528	521.065	544.342	527.573	479.946	429.869	394.263
57.5	378.107	411.109	464.709	515.245	537.757	521.218	473.361	422.212	387.066
58.0	371.216	403.911	457.741	509.273	531.478	515.092	466.623	415.397	379.792
58.5	363.788	396.790	451.309	505.138	525.659	510.039	460.267	408.276	372.058
59.0	356.973	389.899	445.566	500.697	519.993	505.138	453.300	400.695	365.243
59.5	349.623	383.161	438.828	493.499	513.561	499.395	447.097	394.034	357.433
60.0	342.578	376.346	431.860	487.527	509.809	493.040	440.436	387.066	350.848
60.5	335.457	369.378	425.351	482.090	504.296	486.914	434.540	379.562	342.731
61.0	327.723	362.486	419.302	475.199	498.629	480.329	427.725	373.130	335.534
61.5	320.755	355.519	413.176	468.843	492.657	474.050	421.523	365.473	328.259
62.0	313.634	348.704	406.898	462.871	485.995	468.384	414.402	358.735	320.832
62.5	306.590	342.042	400.619	456.669	479.487	461.493	408.429	351.537	313.634
63.0	299.775	335.074	394.263	450.466	473.361	455.444	401.844	344.799	306.590
63.5	292.577	328.566	387.831	443.805	467.312	449.088	395.106	337.754	299.545
64.0	285.150	321.751	381.706	437.603	461.033	442.962	388.903	330.786	291.888
64.5	277.493	314.936	374.891	431.094	454.295	437.067	382.165	324.048	284.767
65.0	270.831	308.657	368.536	424.892	448.093	430.328	376.040	317.157	277.569
65.5	264.169	301.842	362.257	419.149	442.350	424.126	369.914	310.265	270.601
66.0	256.895	295.104	356.284	411.951	435.918	417.541	363.022	303.297	263.404
66.5	250.540	288.596	349.699	406.055	429.180	411.109	356.973	296.482	256.359
67.0	243.572	282.240	343.344	399.623	422.977	404.294	350.082	289.897	249.698
67.5	236.987	275.655	337.295	392.885	416.239	398.245	344.263	283.389	242.883
68.0	230.172	269.300	330.480	387.295	410.114	391.966	337.601	276.651	236.298
68.5	223.510	263.021	324.660	380.328	403.758	385.151	331.092	270.065	228.947
69.0	216.849	256.206	318.382	374.661	397.326	379.179	324.814	263.863	222.438
69.5	209.804	249.851	312.179	367.923	390.818	372.900	318.765	257.202	215.164
70.0	203.449	243.572	305.671	361.721	384.309	366.085	312.179	250.387	208.656
70.5	197.093	236.834	299.622	355.136	378.030	360.113	305.901	243.802	202.071
71.0	190.125	230.861	293.496	349.316	371.675	353.681	299.775	237.293	195.256
71.5	183.847	224.429	287.753	343.037	365.320	347.785	293.266	230.861	188.517
72.0	177.338	218.610	281.168	336.376	358.888	341.200	287.447	224.735	181.473
72.5	170.906	212.331	275.272	330.327	352.915	335.227	281.092	218.150	174.888
73.0	164.398	206.435	268.993	323.742	346.330	328.489	275.043	211.795	168.915
73.5	158.272	200.463	263.098	317.233	339.745	322.287	268.993	205.593	162.254
74.0	151.993	194.260	257.202	311.720	333.696	316.008	262.715	199.391	155.975
74.5	145.332	187.981	250.770	305.211	327.111	309.959	257.048	192.959	149.313
75.0	138.976	182.239	245.027	299.392	321.291	303.527	251.152	187.063	143.264
75.5	133.233	176.419	239.437	292.960	314.936	297.401	244.950	180.784	136.985
76.0	126.878	170.600	233.541	287.217	308.734	291.505	239.361	175.041	130.783
76.5	121.135	164.934	227.798	281.092	302.455	285.150	233.311	168.839	125.117
77.0	115.469	159.267	222.056	274.889	296.176	279.254	227.262	163.096	119.068
77.5	109.649	153.678	216.466	269.147	290.433	273.052	221.520	157.047	113.248
78.0	103.677	148.088	210.953	263.174	284.001	267.232	216.006	151.610	107.429
78.5	98.011	142.805	205.286	257.355	278.182	261.413	210.417	146.021	101.686
79.0	92.421	137.368	200.003	251.459	272.056	255.440	204.674	140.661	96.250
79.5	87.291	132.008	194.796	245.869	266.467	250.234	199.391	135.148	90.430
80.0	82.084	126.648	189.436	239.973	260.877	244.184	193.877	129.788	85.223
80.5	76.724	121.518	184.153	234.613	254.751	238.748	188.747	124.964	79.863
81.0	71.517	116.617	179.023	228.947	249.238	232.929	183.540	119.680	74.886
81.5	66.540	111.640	173.816	223.587	243.572	227.492	178.410	114.856	69.833
82.0	61.640	106.893	168.839	218.227	237.523	222.132	173.280	110.109	64.932
82.5	57.122	101.992	163.862	213.326	232.010	216.466	168.073	105.438	60.261

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CANDELA TABULATION - (Cont.)

83.0	52.298	97.398	158.961	207.966	226.803	211.106	163.402	100.767	55.590
83.5	47.780	92.957	154.137	202.760	221.290	206.129	158.349	96.250	51.073
84.0	43.339	88.592	149.466	197.629	216.083	201.075	153.831	91.808	46.632
84.5	39.051	84.305	144.796	192.805	210.876	195.945	149.083	87.521	42.497
85.0	35.069	80.323	140.125	187.752	205.822	190.815	144.413	83.386	38.209
85.5	31.088	76.111	135.837	182.775	200.692	186.067	139.972	78.945	34.227
86.0	27.106	72.206	131.549	178.257	195.715	181.320	135.377	74.963	30.169
86.5	23.354	68.378	127.414	173.586	190.968	176.419	131.166	70.905	26.264
87.0	19.602	64.626	123.126	169.068	186.144	171.978	127.031	67.076	22.359
87.5	16.156	61.104	119.144	164.934	181.550	167.614	122.743	63.324	18.607
88.0	12.787	57.275	115.392	160.722	177.338	163.326	118.838	59.496	14.855
88.5	9.418	53.982	111.947	156.894	173.050	159.421	115.163	55.744	11.026
89.0	6.049	50.843	108.731	153.142	169.298	155.439	111.564	52.451	7.427
89.5	2.986	48.240	105.668	149.696	165.546	151.993	108.501	49.541	3.905
90.0	1.072	45.866	102.988	146.327	161.947	148.471	105.668	47.015	1.225
90.5	0.689	43.875	100.384	143.111	158.349	145.025	102.835	44.871	0.689
91.0	0.689	42.191	97.781	139.972	154.979	141.962	99.925	43.186	0.613
91.5	0.689	40.965	95.560	136.909	151.763	138.976	97.704	41.884	0.613
92.0	0.689	39.893	93.263	134.229	148.854	136.296	95.560	40.812	0.613
92.5	0.689	38.898	91.655	131.778	146.021	133.693	93.723	39.817	0.613
93.0	0.689	37.979	89.971	129.405	143.341	131.319	92.038	38.821	0.613
93.5	0.689	37.060	88.439	127.337	141.044	129.098	90.430	37.903	0.613
94.0	0.689	36.218	86.985	125.193	138.746	127.031	89.052	36.984	0.613
94.5	0.689	35.376	85.683	123.356	136.679	125.117	87.597	36.065	0.613
95.0	0.689	34.533	84.381	121.518	134.688	123.049	86.142	35.223	0.613
95.5	0.689	33.768	82.926	119.680	132.468	121.288	84.764	34.457	0.613
96.0	0.689	33.002	81.701	117.843	130.553	119.374	83.386	33.691	0.613
96.5	0.689	32.236	80.323	116.158	128.639	117.689	81.931	32.849	0.613
97.0	0.689	31.471	79.098	114.244	126.648	115.699	80.706	32.083	0.613
97.5	0.689	30.705	77.719	112.712	124.734	114.091	79.404	31.394	0.613
98.0	0.689	30.016	76.494	110.875	122.973	112.329	78.026	30.628	0.613
98.5	0.689	29.403	75.346	109.267	121.212	110.568	76.801	29.863	0.613
99.0	0.689	28.638	73.967	107.735	119.451	108.884	75.499	29.174	0.613
99.5	0.689	27.948	72.819	106.127	117.613	107.276	74.274	28.484	0.613
100.0	0.689	27.336	71.517	104.519	115.852	105.668	72.972	27.795	0.613
100.5	0.689	26.647	70.369	102.911	114.014	104.136	71.823	27.183	0.689
101.0	0.689	26.111	69.220	101.303	112.406	102.605	70.675	26.494	0.689
101.5	0.689	25.422	67.995	99.772	110.798	100.920	69.373	25.881	0.689
102.0	0.766	24.886	66.923	98.240	108.960	99.542	68.301	25.268	0.689
102.5	0.766	24.273	65.774	96.786	107.199	98.087	67.076	24.656	0.689
103.0	0.766	23.737	64.626	95.254	105.591	96.556	65.928	24.043	0.689
103.5	0.766	23.124	63.477	93.952	104.060	95.024	64.856	23.431	0.689
104.0	0.766	22.588	62.482	92.574	102.528	93.570	63.630	22.818	0.689
104.5	0.766	22.052	61.333	90.966	101.074	92.115	62.558	22.282	0.766
105.0	0.766	21.516	60.338	89.664	99.389	90.736	61.486	21.746	0.766
105.5	0.766	20.980	59.342	88.286	97.934	89.205	60.414	21.210	0.766
106.0	0.766	20.444	58.270	86.831	96.479	87.827	59.266	20.674	0.766
106.5	0.766	19.985	57.275	85.606	94.795	86.449	58.270	20.215	0.766
107.0	0.842	19.449	56.280	84.228	93.493	84.994	57.198	19.679	0.766
107.5	0.842	18.990	55.208	82.773	92.115	83.692	56.280	19.219	0.766
108.0	0.842	18.530	54.212	81.625	90.660	82.390	55.284	18.760	0.766
108.5	0.842	17.994	53.370	80.246	89.282	81.165	54.212	18.224	0.842
109.0	0.842	17.535	52.374	78.945	87.903	79.863	53.217	17.764	0.842
109.5	0.842	17.075	51.379	77.643	86.602	78.562	52.298	17.305	0.842
110.0	0.842	16.692	50.537	76.418	85.223	77.260	51.379	16.846	0.842
110.5	0.842	16.233	49.618	75.269	83.845	75.958	50.384	16.386	0.842

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CANDELA TABULATION - (Cont.)

111.0	0.842	15.774	48.699	74.044	82.620	74.886	49.465	16.003	0.842
111.5	0.919	15.391	47.857	72.895	81.318	73.585	48.469	15.544	0.842
112.0	0.919	14.931	46.938	71.594	80.093	72.359	47.627	15.084	0.842
112.5	0.919	14.548	46.019	70.598	78.791	71.211	46.708	14.702	0.919
113.0	0.919	14.166	45.253	69.297	77.490	70.062	45.789	14.242	0.919
113.5	0.919	13.783	44.258	68.148	76.188	68.761	44.947	13.859	0.919
114.0	0.919	13.323	43.492	67.076	75.116	67.612	44.105	13.476	0.919
114.5	0.919	12.940	42.650	65.928	73.814	66.540	43.186	13.017	0.919
115.0	0.919	12.634	41.808	64.856	72.666	65.392	42.267	12.634	0.919
115.5	0.919	12.175	40.965	63.784	71.441	64.243	41.425	12.251	0.919
116.0	0.919	11.868	40.200	62.558	70.292	63.171	40.583	11.868	0.995
116.5	0.919	11.486	39.357	61.563	69.143	62.099	39.817	11.562	0.995
117.0	0.919	11.103	38.515	60.414	67.918	60.950	38.975	11.179	0.995
117.5	0.919	10.720	37.749	59.419	66.846	59.878	38.132	10.796	0.995
118.0	0.919	10.414	37.060	58.270	65.698	58.806	37.367	10.414	0.995
118.5	0.919	10.031	36.295	57.275	64.626	57.734	36.601	10.107	0.995
119.0	0.919	9.725	35.529	56.280	63.477	56.739	35.835	9.725	0.995
119.5	0.919	9.342	34.763	55.284	62.329	55.744	35.069	9.418	0.995
120.0	0.919	9.035	33.997	54.136	61.257	54.595	34.227	9.035	0.995
120.5	0.919	8.729	33.232	53.293	60.108	53.600	33.538	8.729	1.072
121.0	0.919	8.346	32.543	52.221	58.960	52.604	32.772	8.423	1.072
121.5	0.919	7.963	31.853	51.226	58.041	51.609	32.083	8.040	1.072
122.0	0.919	7.657	31.164	50.230	56.816	50.613	31.394	7.734	1.072
122.5	0.919	7.351	30.399	49.235	55.820	49.541	30.705	7.427	1.072
123.0	0.919	7.045	29.709	48.316	54.748	48.623	29.939	7.121	1.072
123.5	0.919	6.738	29.020	47.321	53.676	47.704	29.250	6.815	1.072
124.0	0.919	6.432	28.408	46.325	52.681	46.708	28.561	6.509	1.072
124.5	0.919	6.126	27.719	45.407	51.685	45.636	27.872	6.202	1.149
125.0	0.919	5.819	27.030	44.488	50.690	44.717	27.183	5.896	1.149
125.5	0.919	5.513	26.340	43.569	49.618	43.799	26.494	5.590	1.149
126.0	0.919	5.283	25.651	42.727	48.623	42.880	25.804	5.283	1.149
126.5	0.919	4.977	25.039	41.808	47.627	41.961	25.192	4.977	1.149
127.0	0.919	4.671	24.426	40.889	46.555	41.042	24.579	4.747	1.149
127.5	0.919	4.441	23.814	40.047	45.636	40.123	23.890	4.441	1.149
128.0	0.919	4.135	23.124	39.128	44.717	39.357	23.278	4.211	1.225
128.5	0.919	3.905	22.435	38.285	43.799	38.515	22.665	3.982	1.225
129.0	0.919	3.675	21.823	37.367	42.803	37.596	22.052	3.752	1.225
129.5	0.919	3.522	21.287	36.524	41.884	36.754	21.440	3.599	1.225
130.0	0.995	3.293	20.751	35.682	40.965	35.912	20.904	3.369	1.225
130.5	0.995	3.139	20.062	34.916	40.047	35.146	20.291	3.216	1.302
131.0	0.995	2.986	19.526	34.151	39.128	34.227	19.679	3.063	1.302
131.5	0.995	2.833	18.990	33.308	38.209	33.461	19.143	2.910	1.302
132.0	0.995	2.680	18.377	32.543	37.290	32.619	18.530	2.757	1.302
132.5	0.995	2.527	17.841	31.700	36.448	31.853	17.994	2.603	1.302
133.0	0.995	2.450	17.305	30.858	35.605	31.011	17.458	2.527	1.378
133.5	0.995	2.374	16.692	30.092	34.687	30.245	16.846	2.450	1.378
134.0	0.995	2.297	16.080	29.327	33.921	29.403	16.310	2.374	1.378
134.5	0.995	2.221	15.467	28.561	33.002	28.638	15.774	2.297	1.378
135.0	0.995	2.144	14.855	27.795	32.160	27.872	15.238	2.221	1.378
135.5	0.995	2.067	14.319	26.953	31.317	27.106	14.702	2.144	1.378
136.0	0.995	1.991	13.706	26.187	30.475	26.340	14.166	2.067	1.378
136.5	0.995	1.991	13.170	25.498	29.633	25.575	13.706	2.067	1.455
137.0	0.995	1.914	12.558	24.809	28.791	24.809	13.170	1.991	1.455
137.5	0.995	1.914	12.022	24.043	28.025	24.120	12.634	1.991	1.455
138.0	0.995	1.838	11.486	23.278	27.259	23.354	12.175	1.914	1.455
138.5	0.995	1.838	11.026	22.588	26.494	22.665	11.715	1.914	1.455

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CANDELA TABULATION - (Cont.)

139.0	1.072	1.838	10.490	21.899	25.728	21.899	11.256	1.838	1.531
139.5	1.072	1.761	9.954	21.210	24.962	21.287	10.796	1.838	1.531
140.0	1.072	1.761	9.495	20.521	24.196	20.521	10.260	1.838	1.531
140.5	1.072	1.761	9.035	19.755	23.431	19.832	9.801	1.761	1.531
141.0	1.072	1.685	8.653	19.143	22.665	19.143	9.342	1.761	1.531
141.5	1.072	1.685	8.193	18.454	21.899	18.530	8.882	1.761	1.608
142.0	1.072	1.685	7.810	17.841	21.210	17.841	8.423	1.761	1.608
142.5	1.072	1.608	7.427	17.152	20.444	17.152	7.963	1.685	1.608
143.0	1.072	1.608	7.045	16.539	19.755	16.463	7.581	1.685	1.608
143.5	1.149	1.608	6.662	15.850	19.066	15.850	7.121	1.685	1.608
144.0	1.149	1.608	6.279	15.238	18.300	15.238	6.738	1.608	1.608
144.5	1.149	1.608	5.896	14.625	17.611	14.548	6.279	1.608	1.685
145.0	1.149	1.531	5.590	13.936	16.922	13.936	5.896	1.608	1.685
145.5	1.149	1.531	5.207	13.323	16.233	13.323	5.513	1.608	1.685
146.0	1.149	1.531	4.901	12.787	15.544	12.711	5.130	1.608	1.685
146.5	1.149	1.531	4.594	12.175	14.855	12.098	4.824	1.608	1.685
147.0	1.149	1.531	4.288	11.562	14.242	11.486	4.518	1.531	1.685
147.5	1.149	1.531	3.982	10.950	13.553	10.950	4.211	1.531	1.761
148.0	1.225	1.531	3.752	10.337	12.940	10.337	3.982	1.531	1.761
148.5	1.225	1.531	3.522	9.725	12.251	9.801	3.752	1.531	1.761
149.0	1.225	1.531	3.369	9.035	11.639	9.189	3.522	1.531	1.761
149.5	1.225	1.531	3.139	8.499	11.026	8.653	3.369	1.531	1.761
150.0	1.225	1.531	2.986	7.887	10.414	8.117	3.216	1.608	1.761
150.5	1.225	1.531	2.910	7.351	9.801	7.581	3.063	1.531	1.838
151.0	1.225	1.531	2.757	6.815	9.189	7.045	2.910	1.531	1.838
151.5	1.302	1.531	2.680	6.355	8.653	6.585	2.833	1.608	1.838
152.0	1.302	1.608	2.603	5.819	8.040	6.049	2.680	1.608	1.838
152.5	1.302	1.608	2.527	5.437	7.504	5.590	2.603	1.608	1.838
153.0	1.302	1.608	2.450	5.054	6.891	5.130	2.527	1.608	1.838
153.5	1.302	1.608	2.374	4.671	6.355	4.747	2.450	1.608	1.838
154.0	1.302	1.608	2.297	4.288	5.819	4.441	2.374	1.608	1.914
154.5	1.378	1.608	2.221	3.982	5.360	4.058	2.297	1.608	1.914
155.0	1.378	1.608	2.144	3.675	4.901	3.752	2.221	1.608	1.914
155.5	1.378	1.685	2.144	3.446	4.518	3.522	2.221	1.608	1.914
156.0	1.378	1.685	2.067	3.216	4.135	3.293	2.144	1.685	1.914
156.5	1.455	1.685	2.067	2.986	3.829	3.063	2.067	1.685	1.914
157.0	1.455	1.685	1.991	2.833	3.522	2.910	2.067	1.685	1.914
157.5	1.455	1.685	1.991	2.757	3.216	2.757	1.991	1.685	1.914
158.0	1.455	1.685	1.914	2.603	3.063	2.603	1.991	1.685	1.991
158.5	1.455	1.761	1.914	2.527	2.833	2.527	1.914	1.685	1.991
159.0	1.531	1.761	1.838	2.374	2.680	2.374	1.914	1.761	1.991
159.5	1.531	1.761	1.838	2.297	2.527	2.297	1.838	1.761	1.991
160.0	1.531	1.761	1.838	2.221	2.450	2.221	1.838	1.761	1.991
160.5	1.531	1.761	1.761	2.144	2.297	2.144	1.838	1.761	1.991
161.0	1.531	1.761	1.761	2.067	2.221	2.067	1.761	1.761	1.991
161.5	1.608	1.761	1.761	2.067	2.144	2.067	1.761	1.761	1.991
162.0	1.608	1.838	1.761	1.991	2.067	1.991	1.761	1.761	1.991
162.5	1.608	1.838	1.761	1.914	1.991	1.914	1.761	1.838	1.991
163.0	1.608	1.838	1.761	1.838	1.914	1.914	1.761	1.838	2.067
163.5	1.608	1.838	1.761	1.838	1.838	1.838	1.761	1.838	2.067
164.0	1.685	1.838	1.761	1.761	1.838	1.761	1.761	1.838	2.067
164.5	1.685	1.838	1.761	1.761	1.761	1.761	1.761	1.838	2.067
165.0	1.685	1.914	1.761	1.761	1.761	1.761	1.761	1.838	2.067
165.5	1.685	1.914	1.761	1.761	1.685	1.761	1.761	1.914	2.067
166.0	1.761	1.914	1.838	1.761	1.685	1.685	1.838	1.914	2.067
166.5	1.761	1.914	1.838	1.761	1.685	1.685	1.838	1.914	2.067

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CANDELA TABULATION - (Cont.)

167.0	1.761	1.914	1.838	1.685	1.608	1.685	1.838	1.914	2.067
167.5	1.761	1.914	1.838	1.685	1.608	1.685	1.838	1.914	2.067
168.0	1.761	1.914	1.838	1.685	1.608	1.685	1.838	1.914	2.067
168.5	1.838	1.991	1.838	1.685	1.608	1.685	1.838	1.914	2.067
169.0	1.838	1.991	1.838	1.761	1.608	1.761	1.838	1.991	2.067
169.5	1.838	1.991	1.838	1.761	1.608	1.761	1.838	1.991	2.067
170.0	1.838	1.991	1.838	1.761	1.608	1.685	1.838	1.991	2.067
170.5	1.838	1.991	1.838	1.761	1.608	1.761	1.838	1.991	2.067
171.0	1.838	1.991	1.914	1.761	1.608	1.761	1.838	1.991	2.067
171.5	1.838	1.991	1.914	1.761	1.608	1.761	1.914	1.991	2.067
172.0	1.838	1.991	1.914	1.761	1.608	1.761	1.914	1.991	2.067
172.5	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
173.0	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
173.5	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
174.0	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
174.5	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
175.0	1.914	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
175.5	1.991	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
176.0	1.991	1.991	1.914	1.761	1.685	1.761	1.914	1.991	2.067
176.5	1.991	1.991	1.914	1.838	1.685	1.761	1.914	1.991	2.067
177.0	1.991	2.067	1.914	1.838	1.685	1.761	1.914	2.067	2.067
177.5	1.991	2.067	1.914	1.838	1.685	1.761	1.914	2.067	2.067
178.0	1.991	2.067	1.914	1.838	1.685	1.838	1.914	2.067	2.067
178.5	1.991	2.067	1.914	1.838	1.685	1.838	1.914	2.067	2.067
179.0	2.067	2.067	1.914	1.838	1.685	1.838	1.991	2.067	2.067
179.5	2.067	2.067	1.914	1.838	1.685	1.838	1.914	2.067	2.067
180.0	1.914	1.914	1.914	1.914	1.914	1.914	1.914	1.914	1.914

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_3500K_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	358.45	N.A.	11.40
0-30	752.97	N.A.	24.00
0-40	1220.82	N.A.	38.80
0-60	2149.06	N.A.	68.40
0-80	2769.79	N.A.	88.10
0-90	2917.38	N.A.	92.80
10-90	2823.97	N.A.	89.80
20-40	862.37	N.A.	27.40
20-50	1344.78	N.A.	42.80
40-70	1293.34	N.A.	41.10
60-80	620.73	N.A.	19.70
70-80	255.63	N.A.	8.10
80-90	147.58	N.A.	4.70
90-110	144.69	N.A.	4.60
90-120	183.77	N.A.	5.80
90-130	207.18	N.A.	6.60
90-150	224.25	N.A.	7.10
90-180	226.34	N.A.	7.20
110-180	81.66	N.A.	2.60
0-180	3143.72	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	93.40
10-20	265.05
20-30	394.52
30-40	467.86
40-50	482.41
50-60	445.83
60-70	365.10
70-80	255.63
80-90	147.58
90-100	85.46
100-110	59.23
110-120	39.09
120-130	23.41
130-140	12.13
140-150	4.94
150-160	1.39
160-170	0.52
170-180	0.18

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	52	44	38	50	42	37	48	41	36	45	40	35	33
7	62	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_3500K_.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	18.8	20.4	19.3	20.8	21.3	21.3	22.8	21.7	23.3	23.7
	3H	20.3	21.7	20.8	22.2	22.7	23.7	25.1	24.2	25.5	26.1
	4H	20.8	22.1	21.3	22.6	23.1	24.8	26.1	25.3	26.6	27.2
	6H	21.1	22.3	21.6	22.8	23.4	25.9	27.2	26.5	27.7	28.2
	8H	21.2	22.3	21.7	22.9	23.4	26.5	27.7	27.1	28.2	28.8
	12H	21.2	22.3	21.7	22.8	23.4	27.1	28.3	27.7	28.8	29.4

UGR Viewed Endwise

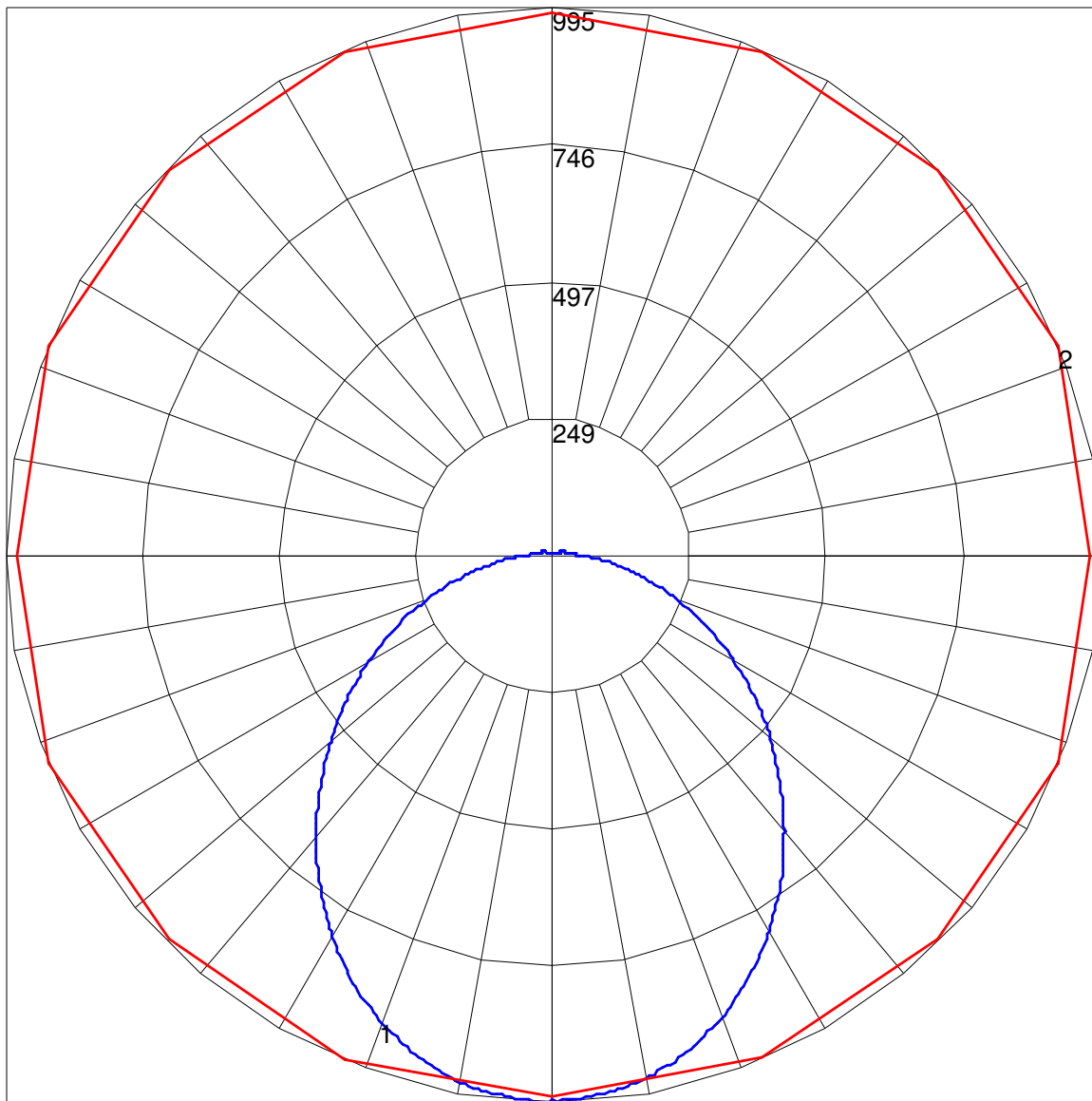
4H	2H	19.8	21.1	20.3	21.6	22.1	21.7	23.0	22.2	23.5	24.0
	3H	21.5	22.6	22.0	23.2	23.7	24.4	25.5	24.9	26.0	26.6
	4H	22.1	23.1	22.6	23.7	24.3	25.6	26.7	26.2	27.2	27.8
	6H	22.5	23.4	23.1	24.0	24.6	27.0	27.9	27.5	28.4	29.0
	8H	22.6	23.5	23.2	24.1	24.7	27.6	28.5	28.2	29.0	29.7
	12H	22.7	23.5	23.3	24.1	24.7	28.4	29.1	28.9	29.7	30.4

8H	4H	22.8	23.7	23.4	24.2	24.8	25.8	26.7	26.4	27.3	27.9
	6H	23.4	24.1	24.0	24.7	25.4	27.3	28.1	27.9	28.7	29.3
	8H	23.6	24.3	24.2	24.9	25.5	28.2	28.8	28.8	29.4	30.0
	12H	23.8	24.3	24.4	24.9	25.6	29.1	29.6	29.7	30.2	30.9

12H	4H	23.0	23.8	23.6	24.4	25.0	25.8	26.6	26.4	27.2	27.8
	6H	23.7	24.4	24.3	24.9	25.6	27.4	28.0	28.0	28.6	29.3
	8H	24.0	24.6	24.6	25.2	25.9	28.2	28.8	28.8	29.4	30.1

Maximum UGR = 30.9

POLAR GRAPH



Maximum Candela = 994.656 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.)