

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] 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_4000K_

[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	3253
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	143
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	14020	13266	13752
55	12761	12282	13085
65	11242	11204	12376
75	9257	10044	11506
85	6401	9247	10952

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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	1023.594	1023.594	1023.594	1023.594	1023.594	1023.594	1023.594	1023.594	1023.594
0.5	1010.125	1027.555	1025.178	1025.178	1020.425	1025.971	1025.178	1029.140	1010.918
1.0	1009.333	1026.763	1023.594	1025.971	1019.632	1025.971	1023.594	1028.347	1010.918
1.5	1010.918	1026.763	1022.009	1025.178	1020.425	1025.971	1023.594	1027.555	1010.918
2.0	1010.918	1025.971	1023.594	1025.971	1019.632	1027.555	1023.594	1028.347	1010.125
2.5	1010.125	1025.178	1022.009	1025.178	1019.632	1024.386	1023.594	1026.763	1008.541
3.0	1007.749	1025.178	1021.217	1025.178	1019.632	1025.178	1022.801	1027.555	1008.541
3.5	1008.541	1023.594	1020.425	1022.801	1018.048	1023.594	1022.009	1025.178	1009.333
4.0	1006.164	1022.009	1018.840	1023.594	1018.840	1022.801	1021.217	1025.971	1006.956
4.5	1006.956	1019.632	1018.840	1022.009	1017.256	1022.801	1019.632	1024.386	1005.372
5.0	1002.995	1018.840	1016.463	1021.217	1017.256	1022.009	1018.840	1022.801	1005.372
5.5	1002.203	1018.840	1015.671	1020.425	1017.256	1021.217	1018.840	1021.217	1002.995
6.0	1000.618	1016.463	1014.087	1019.632	1014.879	1019.632	1016.463	1021.217	1002.203
6.5	999.034	1014.879	1013.294	1017.256	1013.294	1018.840	1015.671	1019.632	1000.618
7.0	996.657	1012.502	1011.710	1014.879	1011.710	1017.256	1014.879	1018.840	1001.411
7.5	995.865	1011.710	1009.333	1014.879	1010.125	1015.671	1012.502	1017.256	998.242
8.0	994.280	1009.333	1007.749	1012.502	1010.125	1014.879	1011.710	1015.671	996.657
8.5	991.904	1006.956	1005.372	1010.125	1006.956	1012.502	1010.125	1013.294	993.488
9.0	990.319	1004.580	1002.203	1009.333	1005.372	1010.125	1007.749	1012.502	991.904
9.5	985.565	1002.203	1002.203	1007.749	1003.787	1009.333	1006.164	1009.333	989.527
10.0	984.773	1001.411	998.242	1002.995	1002.995	1006.956	1004.580	1007.749	988.735
10.5	979.227	996.657	996.657	1002.995	999.034	1005.372	1002.203	1004.580	984.773
11.0	978.435	995.865	994.280	999.826	997.449	1002.995	998.242	1000.618	984.773
11.5	975.266	991.904	991.111	997.449	995.865	999.826	996.657	999.826	980.812
12.0	972.097	988.735	989.527	995.073	992.696	998.242	993.488	996.657	976.851
12.5	968.136	985.565	986.358	993.488	992.696	994.280	991.111	992.696	975.266
13.0	966.551	983.981	982.396	990.319	989.527	992.696	988.735	991.111	970.513
13.5	964.175	980.020	980.812	986.358	986.358	989.527	986.358	988.735	967.344
14.0	959.421	976.058	976.851	983.981	983.189	987.150	982.396	985.565	964.175
14.5	953.875	972.097	972.889	980.812	980.020	983.189	980.020	982.396	961.798
15.0	951.499	969.720	971.305	979.227	976.851	980.812	976.058	978.435	957.837
15.5	948.330	967.344	966.551	975.266	973.682	976.851	973.682	974.474	954.668
16.0	945.953	961.798	963.382	972.889	969.720	973.682	968.928	971.305	949.122
16.5	938.822	958.629	958.629	969.720	966.551	970.513	964.967	967.344	948.330
17.0	934.861	954.668	956.252	965.759	963.382	965.759	961.798	964.175	942.784
17.5	930.900	949.914	951.499	961.006	959.421	961.798	957.044	961.006	940.407
18.0	928.523	944.368	946.745	956.252	956.252	957.044	953.875	954.668	935.653
18.5	923.770	941.199	942.784	953.875	952.291	953.875	949.122	951.499	931.692
19.0	917.432	936.446	938.030	949.122	947.537	949.914	945.953	946.745	926.939
19.5	914.263	932.484	934.069	945.160	942.784	945.160	941.991	942.784	921.393
20.0	909.509	926.939	929.315	940.407	938.822	941.991	937.238	938.030	917.432
20.5	903.963	922.185	925.354	936.446	934.861	936.446	933.277	933.277	913.470
21.0	900.002	917.432	919.808	930.900	930.108	933.277	926.939	930.108	907.132
21.5	893.664	912.678	915.055	926.146	926.939	929.315	923.770	924.562	903.171
22.0	889.703	908.717	911.094	921.393	922.185	923.770	919.016	919.808	898.417
22.5	882.572	901.586	905.548	917.432	919.016	921.393	914.263	914.263	892.079
23.0	877.819	896.833	900.794	911.886	914.263	915.847	910.301	909.509	888.910
23.5	873.858	891.287	896.833	907.924	911.094	913.470	905.548	904.755	883.365
24.0	865.935	886.534	891.287	903.171	906.340	908.717	900.794	897.625	875.442
24.5	862.766	881.780	885.741	899.210	902.379	904.755	895.248	892.872	870.688
25.0	856.428	873.858	880.988	895.248	900.002	900.794	890.495	888.118	865.935
25.5	849.298	869.104	873.858	891.287	896.041	896.041	886.534	883.365	861.181
26.0	842.960	864.350	869.104	884.949	891.287	891.287	880.988	877.819	854.051
26.5	837.414	857.220	864.350	881.780	887.326	886.534	875.442	871.481	849.298

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27.0	832.660	851.674	859.597	876.234	880.988	881.780	869.896	865.935	842.960
27.5	825.530	846.921	854.051	872.273	877.027	876.234	865.143	860.389	836.622
28.0	819.984	838.998	846.921	867.519	873.065	871.481	858.805	854.051	831.076
28.5	814.438	833.452	842.167	861.974	868.312	866.727	854.051	848.505	825.530
29.0	808.100	827.114	836.622	857.220	863.558	861.181	848.505	842.960	818.400
29.5	801.762	821.569	831.076	851.674	858.012	856.428	843.752	835.829	812.062
30.0	793.840	815.231	825.530	846.129	853.259	851.674	837.414	830.283	804.931
30.5	787.581	808.893	819.192	841.375	848.505	846.129	831.868	823.945	798.593
31.0	780.926	801.762	813.646	835.829	843.752	841.375	825.530	817.607	793.840
31.5	775.935	794.632	808.100	830.283	838.206	836.622	820.776	811.269	785.283
32.0	767.616	789.720	801.762	825.530	833.452	831.868	815.231	804.931	779.421
32.5	762.229	782.590	795.424	819.984	828.699	826.322	808.100	797.801	773.954
33.0	754.465	776.252	788.452	815.231	824.738	821.569	801.762	790.829	765.081
33.5	747.493	769.517	782.510	810.477	819.192	815.231	796.216	784.729	759.456
34.0	741.155	762.863	777.915	804.139	814.438	810.477	791.146	778.787	753.672
34.5	733.787	755.415	771.181	798.593	809.685	804.931	784.887	770.785	745.591
35.0	728.003	748.998	765.556	793.840	804.139	799.386	778.945	764.606	740.283
35.5	720.794	741.630	759.931	788.690	800.178	793.840	772.211	757.158	731.727
36.0	712.317	734.024	753.118	783.065	794.632	789.562	765.873	750.583	726.023
36.5	704.949	727.449	747.889	777.202	789.958	783.778	760.010	743.690	719.447
37.0	699.244	719.922	740.759	772.766	785.125	778.549	753.435	736.797	713.980
37.5	691.639	713.743	734.975	766.982	779.975	772.290	748.127	730.459	707.088
38.0	683.479	706.533	728.399	761.833	774.905	766.745	741.789	723.963	698.928
38.5	676.903	699.324	723.091	756.049	769.201	761.278	734.817	717.546	691.163
39.0	668.980	691.639	716.436	750.424	763.813	755.574	729.271	711.366	683.637
39.5	661.454	683.875	710.415	744.561	758.901	750.028	722.537	704.394	674.843
40.0	653.373	677.616	704.156	739.174	754.306	745.037	716.278	697.977	666.604
40.5	646.559	670.486	697.977	733.470	748.206	739.333	710.098	689.817	658.839
41.0	637.924	662.484	691.401	728.241	742.105	733.787	703.760	682.607	651.075
41.5	630.794	654.640	686.014	722.854	737.986	727.528	696.947	673.972	643.232
42.0	622.554	647.669	679.121	716.912	732.519	723.091	690.688	665.811	636.181
42.5	615.186	640.221	672.545	711.683	727.290	716.753	683.637	658.523	628.417
43.0	607.264	633.646	666.207	705.741	721.903	710.653	677.695	649.808	620.653
43.5	600.371	626.832	659.552	699.799	717.070	704.790	671.832	642.123	613.839
44.0	593.637	618.751	653.373	694.570	711.604	699.720	664.623	633.883	605.679
44.5	584.209	611.146	645.767	688.470	706.137	694.332	659.236	626.595	598.470
45.0	577.316	603.619	640.538	682.924	700.750	687.519	652.977	618.355	591.022
45.5	570.186	596.251	633.170	677.061	694.253	682.449	646.401	611.700	583.575
46.0	562.343	589.992	627.070	670.644	688.866	676.982	640.221	603.857	575.177
46.5	555.450	582.545	620.257	664.068	683.716	670.327	633.883	596.806	568.285
47.0	547.369	574.543	613.839	659.394	678.012	665.732	628.021	589.517	561.154
47.5	539.447	567.413	607.264	652.818	672.942	660.107	621.603	581.991	552.043
48.0	533.267	560.045	601.242	648.144	666.445	652.898	615.345	574.385	545.864
48.5	524.631	552.677	594.746	640.934	661.295	647.589	608.848	567.096	536.753
49.0	519.561	546.498	588.725	635.468	655.591	641.806	602.114	560.045	529.623
49.5	512.748	538.258	582.308	629.684	649.412	636.260	593.875	552.202	522.572
50.0	504.746	531.920	575.890	623.743	644.341	630.318	587.933	544.675	516.471
50.5	496.823	526.295	568.047	617.721	638.637	624.139	581.119	537.624	509.737
51.0	489.376	519.403	562.660	611.621	633.329	618.197	573.593	529.860	501.022
51.5	482.008	512.510	555.609	606.392	628.417	612.334	567.017	525.344	493.496
52.0	474.244	504.825	549.746	600.609	622.237	606.551	559.887	518.135	485.494
52.5	467.114	497.853	543.170	594.508	616.454	600.450	553.628	511.718	478.205
53.0	459.112	490.168	536.278	588.725	610.512	595.301	547.211	503.954	471.075
53.5	451.902	483.038	529.860	582.545	604.570	588.963	540.080	496.506	462.756
54.0	444.059	476.383	524.077	576.524	598.232	583.021	534.297	489.218	454.675
54.5	436.453	468.619	519.403	569.869	593.320	577.396	527.325	481.612	447.466

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55.0	428.293	461.330	513.302	564.165	587.378	570.978	523.364	474.719	439.464
55.5	420.846	454.834	506.568	557.668	580.961	564.878	517.184	467.431	431.541
56.0	413.399	446.911	499.913	551.330	575.573	559.174	510.371	459.904	424.490
56.5	406.268	439.543	493.258	545.626	568.918	551.885	503.241	451.823	416.409
57.0	398.504	432.096	486.841	539.130	563.214	545.864	496.586	444.772	407.932
57.5	391.216	425.362	480.820	533.109	556.401	539.288	489.772	436.850	400.485
58.0	384.085	417.915	473.610	526.929	549.904	532.950	482.800	429.798	392.959
58.5	376.400	410.547	466.955	522.651	543.883	527.721	476.225	422.430	384.957
59.0	369.349	403.416	461.013	518.056	538.021	522.651	469.015	414.587	377.906
59.5	361.744	396.445	454.041	510.608	531.366	516.709	462.598	407.695	369.825
60.0	354.455	389.393	446.832	504.429	527.484	510.133	455.705	400.485	363.011
60.5	347.087	382.184	440.098	498.804	521.779	503.795	449.605	392.721	354.613
61.0	339.085	375.054	433.839	491.674	515.917	496.982	442.554	386.066	347.166
61.5	331.876	367.844	427.501	485.098	509.737	490.485	436.137	378.143	339.640
62.0	324.508	360.793	421.004	478.918	502.844	484.623	428.769	371.172	331.955
62.5	317.219	353.900	414.508	472.501	496.110	477.492	422.589	363.724	324.508
63.0	310.168	346.691	407.932	466.084	489.772	471.233	415.776	356.753	317.219
63.5	302.721	339.957	401.277	459.191	483.513	464.658	408.804	349.464	309.930
64.0	295.036	332.906	394.939	452.774	477.017	458.320	402.386	342.254	302.008
64.5	287.113	325.855	387.888	446.040	470.045	452.219	395.415	335.282	294.640
65.0	280.221	319.358	381.312	439.622	463.628	445.247	389.077	328.152	287.193
65.5	273.328	312.307	374.816	433.681	457.686	438.830	382.738	321.022	279.983
66.0	265.802	305.335	368.636	426.233	451.031	432.017	375.608	313.812	272.536
66.5	259.226	298.601	361.823	420.133	444.059	425.362	369.349	306.761	265.247
67.0	252.016	292.025	355.247	413.478	437.642	418.311	362.219	299.948	258.354
67.5	245.203	285.212	348.988	406.506	430.670	412.052	356.198	293.214	251.303
68.0	238.152	278.636	341.937	400.723	424.332	405.555	349.305	286.242	244.490
68.5	231.259	272.140	335.916	393.513	417.756	398.504	342.571	279.428	236.884
69.0	224.367	265.089	329.420	387.650	411.101	392.325	336.075	273.011	230.150
69.5	217.078	258.513	323.002	380.679	404.367	385.828	329.816	266.119	222.624
70.0	210.502	252.016	316.268	374.261	397.633	378.777	323.002	259.067	215.890
70.5	203.926	245.045	310.009	367.448	391.136	372.598	316.506	252.254	209.076
71.0	196.717	238.865	303.671	361.427	384.561	365.943	310.168	245.520	202.025
71.5	190.220	232.210	297.730	354.930	377.985	359.842	303.434	238.865	195.053
72.0	183.486	226.189	290.916	348.038	371.330	353.029	297.413	232.527	187.764
72.5	176.831	219.692	284.816	341.779	365.150	346.849	290.837	225.714	180.951
73.0	170.097	213.592	278.319	334.966	358.337	339.877	284.578	219.138	174.772
73.5	163.759	207.412	272.219	328.231	351.524	333.460	278.319	212.721	167.879
74.0	157.263	200.995	266.119	322.527	345.265	326.964	271.823	206.303	161.382
74.5	150.370	194.499	259.464	315.793	338.451	320.705	265.960	199.648	154.490
75.0	143.794	188.557	253.522	309.772	332.430	314.050	259.860	193.548	148.231
75.5	137.852	182.536	247.738	303.117	325.855	307.712	253.442	187.051	141.734
76.0	131.277	176.514	241.638	297.175	319.437	301.612	247.659	181.110	135.317
76.5	125.335	170.652	235.696	290.837	312.941	295.036	241.400	174.692	129.455
77.0	119.472	164.789	229.754	284.420	306.444	288.935	235.141	168.750	123.196
77.5	113.451	159.006	223.971	278.478	300.502	282.518	229.199	162.492	117.175
78.0	107.271	153.222	218.266	272.298	293.847	276.497	223.495	156.867	111.153
78.5	101.409	147.756	212.404	266.277	287.826	270.476	217.712	151.083	105.211
79.0	95.625	142.131	206.937	260.177	281.488	264.296	211.770	145.537	99.586
79.5	90.317	136.585	201.550	254.393	275.705	258.909	206.303	139.833	93.565
80.0	84.930	131.039	196.004	248.293	269.921	252.650	200.599	134.287	88.178
80.5	79.384	125.731	190.537	242.747	263.583	247.025	195.291	129.296	82.632
81.0	73.997	120.660	185.229	236.884	257.879	241.004	189.904	123.829	77.483
81.5	68.847	115.511	179.842	231.339	252.016	235.379	184.595	118.838	72.254
82.0	63.777	110.599	174.692	225.793	245.758	229.833	179.287	113.926	67.183
82.5	59.102	105.528	169.543	220.722	240.053	223.971	173.900	109.094	62.350

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CANDELA TABULATION - (Cont.)

83.0	54.111	100.775	164.472	215.177	234.666	218.425	169.067	104.261	57.518
83.5	49.437	96.180	159.481	209.789	228.962	213.275	163.838	99.586	52.843
84.0	44.842	91.664	154.648	204.481	223.574	208.046	159.164	94.991	48.248
84.5	40.405	87.227	149.815	199.490	218.187	202.738	154.252	90.555	43.970
85.0	36.285	83.108	144.983	194.261	212.958	197.430	149.419	86.277	39.534
85.5	32.166	78.750	140.546	189.111	207.650	192.518	144.824	81.682	35.414
86.0	28.046	74.710	136.109	184.437	202.500	187.606	140.071	77.562	31.215
86.5	24.164	70.748	131.831	179.604	197.588	182.536	135.713	73.363	27.174
87.0	20.282	66.866	127.395	174.930	192.597	177.941	131.435	69.402	23.134
87.5	16.717	63.222	123.275	170.652	187.844	173.425	126.999	65.520	19.252
88.0	13.231	59.261	119.393	166.294	183.486	168.988	122.958	61.558	15.370
88.5	9.745	55.854	115.828	162.333	179.050	164.948	119.155	57.676	11.408
89.0	6.259	52.606	112.500	158.451	175.168	160.828	115.432	54.269	7.685
89.5	3.090	49.912	109.331	154.886	171.286	157.263	112.263	51.259	4.041
90.0	1.109	47.456	106.558	151.400	167.562	153.618	109.331	48.644	1.268
90.5	0.713	45.396	103.865	148.073	163.838	150.053	106.400	46.426	0.713
91.0	0.713	43.653	101.171	144.824	160.352	146.884	103.389	44.683	0.634
91.5	0.713	42.386	98.873	141.655	157.025	143.794	101.092	43.336	0.634
92.0	0.713	41.276	96.497	138.882	154.014	141.021	98.873	42.227	0.634
92.5	0.713	40.247	94.833	136.347	151.083	138.328	96.972	41.197	0.634
93.0	0.713	39.296	93.090	133.891	148.310	135.872	95.229	40.167	0.634
93.5	0.713	38.345	91.505	131.752	145.933	133.574	93.565	39.217	0.634
94.0	0.713	37.474	90.000	129.534	143.557	131.435	92.139	38.266	0.634
94.5	0.713	36.602	88.653	127.632	141.418	129.455	90.634	37.315	0.634
95.0	0.713	35.731	87.307	125.731	139.358	127.315	89.129	36.444	0.634
95.5	0.713	34.938	85.801	123.829	137.060	125.493	87.703	35.651	0.634
96.0	0.713	34.146	84.534	121.928	135.080	123.513	86.277	34.859	0.634
96.5	0.713	33.354	83.108	120.185	133.099	121.770	84.771	33.988	0.634
97.0	0.713	32.562	81.840	118.204	131.039	119.710	83.504	33.195	0.634
97.5	0.713	31.769	80.414	116.620	129.058	118.046	82.157	32.482	0.634
98.0	0.713	31.056	79.146	114.719	127.236	116.224	80.731	31.690	0.634
98.5	0.713	30.423	77.958	113.055	125.414	114.402	79.463	30.898	0.634
99.0	0.713	29.630	76.532	111.470	123.592	112.659	78.116	30.185	0.634
99.5	0.713	28.917	75.343	109.807	121.690	110.995	76.849	29.472	0.634
100.0	0.713	28.284	73.997	108.143	119.868	109.331	75.502	28.759	0.634
100.5	0.713	27.570	72.808	106.479	117.967	107.747	74.314	28.125	0.713
101.0	0.713	27.016	71.620	104.815	116.303	106.162	73.125	27.412	0.713
101.5	0.713	26.303	70.352	103.231	114.639	104.419	71.778	26.778	0.713
102.0	0.792	25.748	69.243	101.646	112.738	102.993	70.669	26.144	0.713
102.5	0.792	25.114	68.055	100.141	110.916	101.488	69.402	25.511	0.713
103.0	0.792	24.560	66.866	98.557	109.252	99.903	68.213	24.877	0.713
103.5	0.792	23.926	65.678	97.210	107.667	98.319	67.104	24.243	0.713
104.0	0.792	23.372	64.648	95.784	106.083	96.814	65.836	23.609	0.713
104.5	0.792	22.817	63.460	94.120	104.578	95.308	64.727	23.055	0.792
105.0	0.792	22.262	62.430	92.773	102.835	93.882	63.618	22.500	0.792
105.5	0.792	21.708	61.400	91.347	101.329	92.298	62.509	21.945	0.792
106.0	0.792	21.153	60.291	89.842	99.824	90.872	61.321	21.391	0.792
106.5	0.792	20.678	59.261	88.574	98.081	89.446	60.291	20.916	0.792
107.0	0.871	20.123	58.231	87.148	96.734	87.940	59.181	20.361	0.792
107.5	0.871	19.648	57.122	85.643	95.308	86.593	58.231	19.886	0.792
108.0	0.871	19.173	56.092	84.454	93.803	85.247	57.201	19.410	0.792
108.5	0.871	18.618	55.220	83.028	92.377	83.979	56.092	18.856	0.871
109.0	0.871	18.143	54.190	81.682	90.951	82.632	55.062	18.380	0.871
109.5	0.871	17.667	53.160	80.335	89.604	81.285	54.111	17.905	0.871
110.0	0.871	17.271	52.289	79.067	88.178	79.939	53.160	17.430	0.871
110.5	0.871	16.796	51.338	77.879	86.752	78.592	52.130	16.954	0.871

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CANDELA TABULATION - (Cont.)

111.0	0.871	16.320	50.387	76.611	85.484	77.483	51.180	16.558	0.871
111.5	0.951	15.924	49.516	75.423	84.138	76.136	50.150	16.083	0.871
112.0	0.951	15.449	48.565	74.076	82.870	74.868	49.278	15.607	0.871
112.5	0.951	15.053	47.615	73.046	81.523	73.680	48.328	15.211	0.951
113.0	0.951	14.657	46.822	71.699	80.176	72.491	47.377	14.736	0.951
113.5	0.951	14.261	45.792	70.511	78.829	71.145	46.505	14.340	0.951
114.0	0.951	13.785	45.000	69.402	77.720	69.956	45.634	13.944	0.951
114.5	0.951	13.389	44.129	68.213	76.373	68.847	44.683	13.468	0.951
115.0	0.951	13.072	43.257	67.104	75.185	67.659	43.732	13.072	0.951
115.5	0.951	12.597	42.386	65.995	73.917	66.470	42.861	12.676	0.951
116.0	0.951	12.280	41.593	64.727	72.729	65.361	41.990	12.280	1.030
116.5	0.951	11.884	40.722	63.697	71.541	64.252	41.197	11.963	1.030
117.0	0.951	11.488	39.850	62.509	70.273	63.064	40.326	11.567	1.030
117.5	0.951	11.092	39.058	61.479	69.164	61.954	39.454	11.171	1.030
118.0	0.951	10.775	38.345	60.291	67.975	60.845	38.662	10.775	1.030
118.5	0.951	10.379	37.553	59.261	66.866	59.736	37.870	10.458	1.030
119.0	0.951	10.062	36.761	58.231	65.678	58.706	37.078	10.062	1.030
119.5	0.951	9.666	35.968	57.201	64.490	57.676	36.285	9.745	1.030
120.0	0.951	9.349	35.176	56.012	63.380	56.488	35.414	9.349	1.030
120.5	0.951	9.032	34.384	55.141	62.192	55.458	34.701	9.032	1.109
121.0	0.951	8.636	33.671	54.032	61.004	54.428	33.909	8.715	1.109
121.5	0.951	8.239	32.958	53.002	60.053	53.398	33.195	8.319	1.109
122.0	0.951	7.923	32.245	51.972	58.785	52.368	32.482	8.002	1.109
122.5	0.951	7.606	31.453	50.942	57.755	51.259	31.769	7.685	1.109
123.0	0.951	7.289	30.740	49.991	56.646	50.308	30.977	7.368	1.109
123.5	0.951	6.972	30.026	48.961	55.537	49.358	30.264	7.051	1.109
124.0	0.951	6.655	29.393	47.931	54.507	48.328	29.551	6.734	1.109
124.5	0.951	6.338	28.680	46.981	53.477	47.218	28.838	6.417	1.188
125.0	0.951	6.021	27.967	46.030	52.447	46.268	28.125	6.100	1.188
125.5	0.951	5.704	27.254	45.079	51.338	45.317	27.412	5.783	1.188
126.0	0.951	5.467	26.541	44.208	50.308	44.366	26.699	5.467	1.188
126.5	0.951	5.150	25.907	43.257	49.278	43.416	26.065	5.150	1.188
127.0	0.951	4.833	25.273	42.306	48.169	42.465	25.431	4.912	1.188
127.5	0.951	4.595	24.639	41.435	47.218	41.514	24.718	4.595	1.188
128.0	0.951	4.278	23.926	40.484	46.268	40.722	24.085	4.357	1.268
128.5	0.951	4.041	23.213	39.613	45.317	39.850	23.451	4.120	1.268
129.0	0.951	3.803	22.579	38.662	44.287	38.900	22.817	3.882	1.268
129.5	0.951	3.644	22.025	37.791	43.336	38.028	22.183	3.724	1.268
130.0	1.030	3.407	21.470	36.919	42.386	37.157	21.629	3.486	1.268
130.5	1.030	3.248	20.757	36.127	41.435	36.365	20.995	3.327	1.347
131.0	1.030	3.090	20.203	35.335	40.484	35.414	20.361	3.169	1.347
131.5	1.030	2.931	19.648	34.463	39.534	34.622	19.806	3.011	1.347
132.0	1.030	2.773	19.014	33.671	38.583	33.750	19.173	2.852	1.347
132.5	1.030	2.614	18.460	32.799	37.711	32.958	18.618	2.694	1.347
133.0	1.030	2.535	17.905	31.928	36.840	32.086	18.063	2.614	1.426
133.5	1.030	2.456	17.271	31.136	35.889	31.294	17.430	2.535	1.426
134.0	1.030	2.377	16.637	30.343	35.097	30.423	16.875	2.456	1.426
134.5	1.030	2.298	16.004	29.551	34.146	29.630	16.320	2.377	1.426
135.0	1.030	2.218	15.370	28.759	33.275	28.838	15.766	2.298	1.426
135.5	1.030	2.139	14.815	27.887	32.403	28.046	15.211	2.218	1.426
136.0	1.030	2.060	14.181	27.095	31.532	27.254	14.657	2.139	1.426
136.5	1.030	2.060	13.627	26.382	30.660	26.461	14.181	2.139	1.505
137.0	1.030	1.981	12.993	25.669	29.789	25.669	13.627	2.060	1.505
137.5	1.030	1.981	12.438	24.877	28.997	24.956	13.072	2.060	1.505
138.0	1.030	1.901	11.884	24.085	28.204	24.164	12.597	1.981	1.505
138.5	1.030	1.901	11.408	23.372	27.412	23.451	12.122	1.981	1.505

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CANDELA TABULATION - (Cont.)

139.0	1.109	1.901	10.854	22.658	26.620	22.658	11.646	1.901	1.585
139.5	1.109	1.822	10.299	21.945	25.828	22.025	11.171	1.901	1.585
140.0	1.109	1.822	9.824	21.232	25.035	21.232	10.616	1.901	1.585
140.5	1.109	1.822	9.349	20.440	24.243	20.519	10.141	1.822	1.585
141.0	1.109	1.743	8.952	19.806	23.451	19.806	9.666	1.822	1.585
141.5	1.109	1.743	8.477	19.093	22.658	19.173	9.190	1.822	1.664
142.0	1.109	1.743	8.081	18.460	21.945	18.460	8.715	1.822	1.664
142.5	1.109	1.664	7.685	17.747	21.153	17.747	8.239	1.743	1.664
143.0	1.109	1.664	7.289	17.113	20.440	17.033	7.843	1.743	1.664
143.5	1.188	1.664	6.893	16.400	19.727	16.400	7.368	1.743	1.664
144.0	1.188	1.664	6.496	15.766	18.935	15.766	6.972	1.664	1.664
144.5	1.188	1.664	6.100	15.132	18.222	15.053	6.496	1.664	1.743
145.0	1.188	1.585	5.783	14.419	17.509	14.419	6.100	1.664	1.743
145.5	1.188	1.585	5.387	13.785	16.796	13.785	5.704	1.664	1.743
146.0	1.188	1.585	5.070	13.231	16.083	13.151	5.308	1.664	1.743
146.5	1.188	1.585	4.754	12.597	15.370	12.518	4.991	1.664	1.743
147.0	1.188	1.585	4.437	11.963	14.736	11.884	4.674	1.585	1.743
147.5	1.188	1.585	4.120	11.329	14.023	11.329	4.357	1.585	1.822
148.0	1.268	1.585	3.882	10.695	13.389	10.695	4.120	1.585	1.822
148.5	1.268	1.585	3.644	10.062	12.676	10.141	3.882	1.585	1.822
149.0	1.268	1.585	3.486	9.349	12.042	9.507	3.644	1.585	1.822
149.5	1.268	1.585	3.248	8.794	11.408	8.952	3.486	1.585	1.822
150.0	1.268	1.585	3.090	8.160	10.775	8.398	3.327	1.664	1.822
150.5	1.268	1.585	3.011	7.606	10.141	7.843	3.169	1.585	1.901
151.0	1.268	1.585	2.852	7.051	9.507	7.289	3.011	1.585	1.901
151.5	1.347	1.585	2.773	6.576	8.952	6.813	2.931	1.664	1.901
152.0	1.347	1.664	2.694	6.021	8.319	6.259	2.773	1.664	1.901
152.5	1.347	1.664	2.614	5.625	7.764	5.783	2.694	1.664	1.901
153.0	1.347	1.664	2.535	5.229	7.130	5.308	2.614	1.664	1.901
153.5	1.347	1.664	2.456	4.833	6.576	4.912	2.535	1.664	1.901
154.0	1.347	1.664	2.377	4.437	6.021	4.595	2.456	1.664	1.981
154.5	1.426	1.664	2.298	4.120	5.546	4.199	2.377	1.664	1.981
155.0	1.426	1.664	2.218	3.803	5.070	3.882	2.298	1.664	1.981
155.5	1.426	1.743	2.218	3.565	4.674	3.644	2.298	1.664	1.981
156.0	1.426	1.743	2.139	3.327	4.278	3.407	2.218	1.743	1.981
156.5	1.505	1.743	2.139	3.090	3.961	3.169	2.139	1.743	1.981
157.0	1.505	1.743	2.060	2.931	3.644	3.011	2.139	1.743	1.981
157.5	1.505	1.743	2.060	2.852	3.327	2.852	2.060	1.743	1.981
158.0	1.505	1.743	1.981	2.694	3.169	2.694	2.060	1.743	2.060
158.5	1.505	1.822	1.981	2.614	2.931	2.614	1.981	1.743	2.060
159.0	1.585	1.822	1.901	2.456	2.773	2.456	1.981	1.822	2.060
159.5	1.585	1.822	1.901	2.377	2.614	2.377	1.901	1.822	2.060
160.0	1.585	1.822	1.901	2.298	2.535	2.298	1.901	1.822	2.060
160.5	1.585	1.822	1.822	2.218	2.377	2.218	1.901	1.822	2.060
161.0	1.585	1.822	1.822	2.139	2.298	2.139	1.822	1.822	2.060
161.5	1.664	1.822	1.822	2.139	2.218	2.139	1.822	1.822	2.060
162.0	1.664	1.901	1.822	2.060	2.139	2.060	1.822	1.822	2.060
162.5	1.664	1.901	1.822	1.981	2.060	1.981	1.822	1.901	2.060
163.0	1.664	1.901	1.822	1.901	1.981	1.981	1.822	1.901	2.139
163.5	1.664	1.901	1.822	1.901	1.901	1.901	1.822	1.901	2.139
164.0	1.743	1.901	1.822	1.822	1.901	1.822	1.822	1.901	2.139
164.5	1.743	1.901	1.822	1.822	1.822	1.822	1.822	1.901	2.139
165.0	1.743	1.981	1.822	1.822	1.822	1.822	1.822	1.901	2.139
165.5	1.743	1.981	1.822	1.822	1.743	1.822	1.822	1.981	2.139
166.0	1.822	1.981	1.901	1.822	1.743	1.743	1.901	1.981	2.139
166.5	1.822	1.981	1.901	1.822	1.743	1.743	1.901	1.981	2.139

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CANDELA TABULATION - (Cont.)

167.0	1.822	1.981	1.901	1.743	1.664	1.743	1.901	1.981	2.139
167.5	1.822	1.981	1.901	1.743	1.664	1.743	1.901	1.981	2.139
168.0	1.822	1.981	1.901	1.743	1.664	1.743	1.901	1.981	2.139
168.5	1.901	2.060	1.901	1.743	1.664	1.743	1.901	1.981	2.139
169.0	1.901	2.060	1.901	1.822	1.664	1.822	1.901	2.060	2.139
169.5	1.901	2.060	1.901	1.822	1.664	1.822	1.901	2.060	2.139
170.0	1.901	2.060	1.901	1.822	1.664	1.743	1.901	2.060	2.139
170.5	1.901	2.060	1.901	1.822	1.664	1.822	1.901	2.060	2.139
171.0	1.901	2.060	1.981	1.822	1.664	1.822	1.901	2.060	2.139
171.5	1.901	2.060	1.981	1.822	1.664	1.822	1.981	2.060	2.139
172.0	1.901	2.060	1.981	1.822	1.664	1.822	1.981	2.060	2.139
172.5	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
173.0	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
173.5	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
174.0	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
174.5	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
175.0	1.981	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
175.5	2.060	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
176.0	2.060	2.060	1.981	1.822	1.743	1.822	1.981	2.060	2.139
176.5	2.060	2.060	1.981	1.901	1.743	1.822	1.981	2.060	2.139
177.0	2.060	2.139	1.981	1.901	1.743	1.822	1.981	2.139	2.139
177.5	2.060	2.139	1.981	1.901	1.743	1.822	1.981	2.139	2.139
178.0	2.060	2.139	1.981	1.901	1.743	1.901	1.981	2.139	2.139
178.5	2.060	2.139	1.981	1.901	1.743	1.901	1.981	2.139	2.139
179.0	2.139	2.139	1.981	1.901	1.743	1.901	2.060	2.139	2.139
179.5	2.139	2.139	1.981	1.901	1.743	1.901	1.981	2.139	2.139
180.0	1.981	1.981	1.981	1.981	1.981	1.981	1.981	1.981	1.981

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_23W_4000K_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	370.88	N.A.	11.40
0-30	779.07	N.A.	24.00
0-40	1263.15	N.A.	38.80
0-60	2223.57	N.A.	68.40
0-80	2865.82	N.A.	88.10
0-90	3018.52	N.A.	92.80
10-90	2921.88	N.A.	89.80
20-40	892.27	N.A.	27.40
20-50	1391.4	N.A.	42.80
40-70	1338.17	N.A.	41.10
60-80	642.25	N.A.	19.70
70-80	264.49	N.A.	8.10
80-90	152.70	N.A.	4.70
90-110	149.71	N.A.	4.60
90-120	190.15	N.A.	5.80
90-130	214.36	N.A.	6.60
90-150	232.02	N.A.	7.10
90-180	234.19	N.A.	7.20
110-180	84.49	N.A.	2.60
0-180	3252.71	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	96.64
10-20	274.24
20-30	408.19
30-40	484.08
40-50	499.13
50-60	461.29
60-70	377.75
70-80	264.49
80-90	152.70
90-100	88.42
100-110	61.28
110-120	40.44
120-130	24.22
130-140	12.55
140-150	5.11
150-160	1.44
160-170	0.54
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_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	18.9	20.5	19.4	20.9	21.4	21.4	22.9	21.8	23.4	23.8
	3H	20.4	21.8	20.9	22.3	22.8	23.8	25.2	24.3	25.6	26.2
	4H	20.9	22.2	21.4	22.7	23.2	24.9	26.2	25.4	26.7	27.3
	6H	21.2	22.4	21.7	22.9	23.5	26.0	27.3	26.6	27.8	28.3
	8H	21.3	22.4	21.8	23.0	23.5	26.6	27.8	27.2	28.3	28.9
	12H	21.3	22.4	21.8	22.9	23.5	27.2	28.4	27.8	28.9	29.5

UGR Viewed Endwise

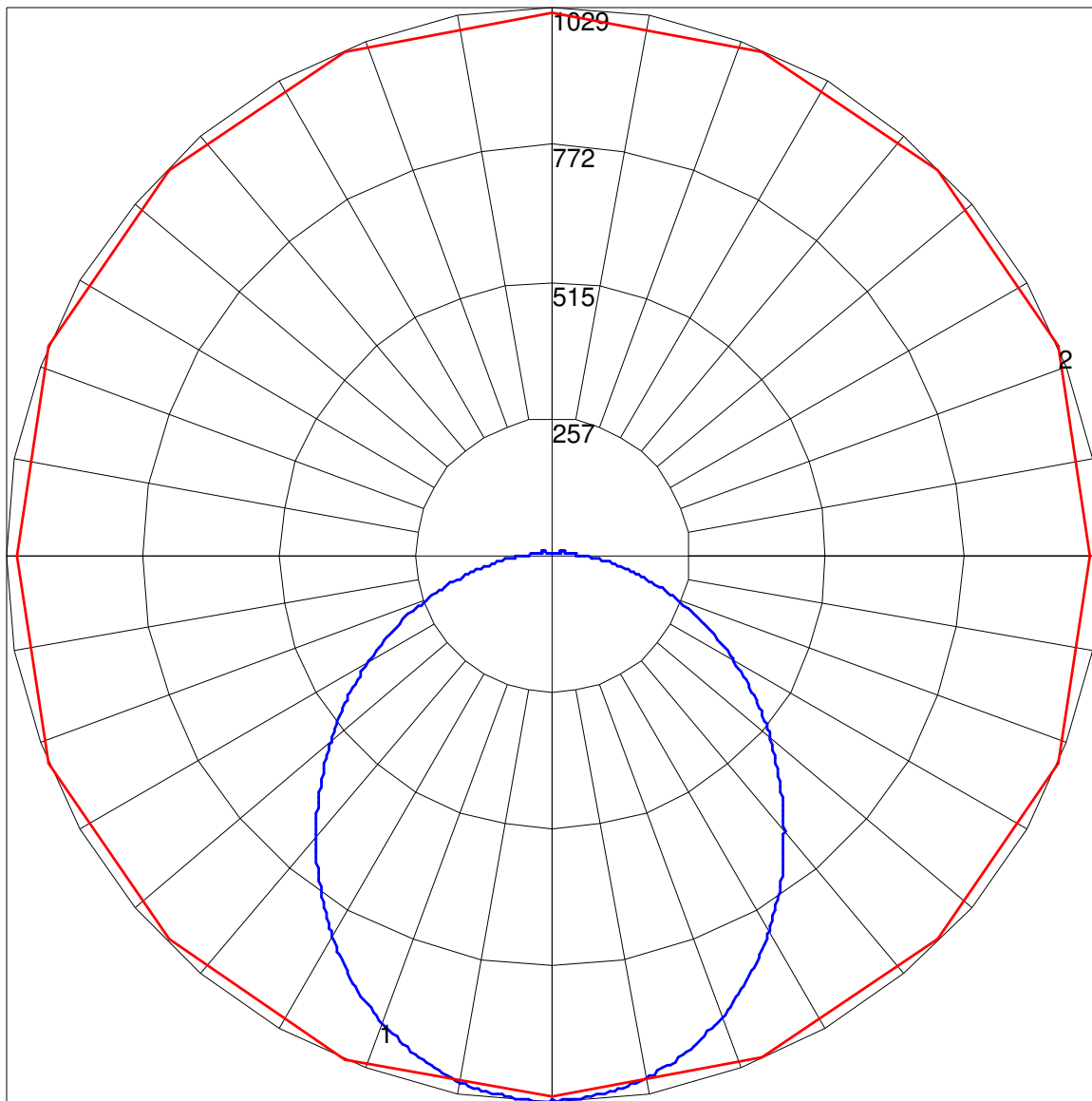
4H	2H	19.9	21.2	20.4	21.7	22.2	21.8	23.1	22.3	23.6	24.1
	3H	21.6	22.7	22.1	23.3	23.8	24.5	25.6	25.0	26.1	26.7
	4H	22.2	23.2	22.7	23.8	24.4	25.7	26.8	26.3	27.3	27.9
	6H	22.6	23.5	23.2	24.1	24.7	27.1	28.0	27.6	28.5	29.1
	8H	22.7	23.6	23.3	24.2	24.8	27.7	28.6	28.3	29.1	29.8
	12H	22.8	23.6	23.4	24.2	24.8	28.5	29.2	29.0	29.8	30.5

8H	4H	22.9	23.8	23.5	24.3	24.9	25.9	26.8	26.5	27.4	28.0
	6H	23.5	24.2	24.1	24.8	25.5	27.4	28.2	28.0	28.8	29.4
	8H	23.7	24.4	24.3	25.0	25.6	28.3	28.9	28.9	29.5	30.1
	12H	23.9	24.4	24.5	25.0	25.7	29.2	29.7	29.8	30.3	31.0

12H	4H	23.1	23.9	23.7	24.5	25.1	25.9	26.7	26.5	27.3	27.9
	6H	23.8	24.5	24.4	25.0	25.7	27.5	28.1	28.1	28.7	29.4
	8H	24.1	24.7	24.7	25.3	26.0	28.3	28.9	28.9	29.5	30.2

Maximum UGR = 31.0

POLAR GRAPH



Maximum Candela = 1029.14 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.)