



IES INDOOR REPORT

PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_28W_4000K_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN FROM 15180278.01
[TESTLAB] UL Verification Services Inc.
[ISSUE DATE] 2024-03-19
[TEST DATE] 2/23/2024
[MANUFAC] H.E. WILLIAMS, INC.
[LUMCAT] FS-4-LS-8CS-DIM-UNV_28W_4000K
[LUMINAIRE] 45 inch Lumen/Wattage selectable, CCT selectable, LED stri
[MORE] p w/frosted acrylic lens
[LAMP] LED
[BALLAST] 0-10V DIMMING DRIVER

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4234
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	153
Total Luminaire Watts	27.7
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	18248	17267	17899
55	16609	15985	17030
65	14632	14582	16109
75	12049	13073	14976
85	8332	12035	14254

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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	1332.277	1332.277	1332.277	1332.277	1332.277	1332.277	1332.277	1332.277	1332.277
0.5	1314.747	1337.433	1334.339	1334.339	1328.152	1335.370	1334.339	1339.495	1315.778
1.0	1313.716	1336.401	1332.277	1335.370	1327.121	1335.370	1332.277	1338.464	1315.778
1.5	1315.778	1336.401	1330.214	1334.339	1328.152	1335.370	1332.277	1337.433	1315.778
2.0	1315.778	1335.370	1332.277	1335.370	1327.121	1337.433	1332.277	1338.464	1314.747
2.5	1314.747	1334.339	1330.214	1334.339	1327.121	1333.308	1332.277	1336.401	1312.684
3.0	1311.653	1334.339	1329.183	1334.339	1327.121	1334.339	1331.246	1337.433	1312.684
3.5	1312.684	1332.277	1328.152	1331.246	1325.059	1332.277	1330.214	1334.339	1313.716
4.0	1309.591	1330.214	1326.090	1332.277	1326.090	1331.246	1329.183	1335.370	1310.622
4.5	1310.622	1327.121	1326.090	1330.214	1324.027	1331.246	1327.121	1333.308	1308.560
5.0	1305.466	1326.090	1322.996	1329.183	1324.027	1330.214	1326.090	1331.246	1308.560
5.5	1304.435	1326.090	1321.965	1328.152	1324.027	1329.183	1326.090	1329.183	1305.466
6.0	1302.373	1322.996	1319.903	1327.121	1320.934	1327.121	1322.996	1329.183	1304.435
6.5	1300.310	1320.934	1318.871	1324.027	1318.871	1326.090	1321.965	1327.121	1302.373
7.0	1297.217	1317.840	1316.809	1320.934	1316.809	1324.027	1320.934	1326.090	1303.404
7.5	1296.186	1316.809	1313.716	1320.934	1314.747	1321.965	1317.840	1324.027	1299.279
8.0	1294.123	1313.716	1311.653	1317.840	1314.747	1320.934	1316.809	1321.965	1297.217
8.5	1291.030	1310.622	1308.560	1314.747	1310.622	1317.840	1314.747	1318.871	1293.092
9.0	1288.967	1307.529	1304.435	1313.716	1308.560	1314.747	1311.653	1317.840	1291.030
9.5	1282.780	1304.435	1304.435	1311.653	1306.497	1313.716	1309.591	1313.716	1287.936
10.0	1281.749	1303.404	1299.279	1305.466	1305.466	1310.622	1307.529	1311.653	1286.905
10.5	1274.531	1297.217	1297.217	1305.466	1300.310	1308.560	1304.435	1307.529	1281.749
11.0	1273.500	1296.186	1294.123	1301.342	1298.248	1305.466	1299.279	1302.373	1281.749
11.5	1269.375	1291.030	1289.999	1298.248	1296.186	1301.342	1297.217	1301.342	1276.593
12.0	1265.250	1286.905	1287.936	1295.154	1292.061	1299.279	1293.092	1297.217	1271.437
12.5	1260.095	1282.780	1283.812	1293.092	1292.061	1294.123	1289.999	1292.061	1269.375
13.0	1258.032	1280.718	1278.656	1288.967	1287.936	1292.061	1286.905	1289.999	1263.188
13.5	1254.939	1275.562	1276.593	1283.812	1283.812	1287.936	1283.812	1286.905	1259.063
14.0	1248.752	1270.406	1271.437	1280.718	1279.687	1284.843	1278.656	1282.780	1254.939
14.5	1241.533	1265.250	1266.282	1276.593	1275.562	1279.687	1275.562	1278.656	1251.845
15.0	1238.440	1262.157	1264.219	1274.531	1271.437	1276.593	1270.406	1273.500	1246.689
15.5	1234.315	1259.063	1258.032	1269.375	1267.313	1271.437	1267.313	1268.344	1242.565
16.0	1231.222	1251.845	1253.908	1266.282	1262.157	1267.313	1261.126	1264.219	1235.346
16.5	1221.941	1247.720	1247.720	1262.157	1258.032	1263.188	1255.970	1259.063	1234.315
17.0	1216.785	1242.565	1244.627	1257.001	1253.908	1257.001	1251.845	1254.939	1227.097
17.5	1211.629	1236.378	1238.440	1250.814	1248.752	1251.845	1245.658	1250.814	1224.003
18.0	1208.536	1229.159	1232.253	1244.627	1244.627	1245.658	1241.533	1242.565	1217.816
18.5	1202.349	1225.035	1227.097	1241.533	1239.471	1241.533	1235.346	1238.440	1212.661
19.0	1194.099	1218.848	1220.910	1235.346	1233.284	1236.378	1231.222	1232.253	1206.474
19.5	1189.975	1213.692	1215.754	1230.191	1227.097	1230.191	1226.066	1227.097	1199.255
20.0	1183.788	1206.474	1209.567	1224.003	1221.941	1226.066	1219.879	1220.910	1194.099
20.5	1176.569	1200.286	1204.411	1218.848	1216.785	1218.848	1214.723	1214.723	1188.944
21.0	1171.414	1194.099	1197.193	1211.629	1210.598	1214.723	1206.474	1210.598	1180.694
21.5	1163.164	1187.912	1191.006	1205.442	1206.474	1209.567	1202.349	1203.380	1175.538
22.0	1158.008	1182.757	1185.850	1199.255	1200.286	1202.349	1196.162	1197.193	1169.351
22.5	1148.728	1173.476	1178.632	1194.099	1196.162	1199.255	1189.975	1189.975	1161.102
23.0	1142.541	1167.289	1172.445	1186.881	1189.975	1192.037	1184.819	1183.788	1156.977
23.5	1137.385	1160.071	1167.289	1181.725	1185.850	1188.944	1178.632	1177.601	1149.759
24.0	1127.073	1153.884	1160.071	1175.538	1179.663	1182.757	1172.445	1168.320	1139.447
24.5	1122.948	1147.697	1152.852	1170.382	1174.507	1177.601	1165.227	1162.133	1133.260
25.0	1114.699	1137.385	1146.665	1165.227	1171.414	1172.445	1159.040	1155.946	1127.073
25.5	1105.418	1131.198	1137.385	1160.071	1166.258	1166.258	1153.884	1149.759	1120.886
26.0	1097.169	1125.011	1131.198	1151.821	1160.071	1160.071	1146.665	1142.541	1111.606
26.5	1089.951	1115.730	1125.011	1147.697	1154.915	1153.884	1139.447	1134.291	1105.418

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27.0	1083.764	1108.512	1118.824	1140.478	1146.665	1147.697	1132.229	1127.073	1097.169
27.5	1074.483	1102.325	1111.606	1135.323	1141.510	1140.478	1126.042	1119.855	1088.920
28.0	1067.265	1092.013	1102.325	1129.135	1136.354	1134.291	1117.793	1111.606	1081.701
28.5	1060.047	1084.795	1096.138	1121.917	1130.167	1128.104	1111.606	1104.387	1074.483
29.0	1051.797	1076.546	1088.920	1115.730	1123.980	1120.886	1104.387	1097.169	1065.203
29.5	1043.548	1069.327	1081.701	1108.512	1116.761	1114.699	1098.200	1087.889	1056.953
30.0	1033.236	1061.078	1074.483	1101.294	1110.574	1108.512	1089.951	1080.670	1047.673
30.5	1025.090	1052.829	1066.234	1095.107	1104.387	1101.294	1082.733	1072.421	1039.423
31.0	1016.428	1043.548	1059.016	1087.889	1098.200	1095.107	1074.483	1064.172	1033.236
31.5	1009.932	1034.267	1051.797	1080.670	1090.982	1088.920	1068.296	1055.922	1022.100
32.0	999.104	1027.874	1043.548	1074.483	1084.795	1082.733	1061.078	1047.673	1014.469
32.5	992.092	1018.594	1035.299	1067.265	1078.608	1075.514	1051.797	1038.392	1007.354
33.0	981.987	1010.344	1026.224	1061.078	1073.452	1069.327	1043.548	1029.318	995.805
33.5	972.913	1001.579	1018.491	1054.891	1066.234	1061.078	1036.330	1021.378	988.483
34.0	964.663	992.917	1012.510	1046.642	1060.047	1054.891	1029.730	1013.644	980.956
34.5	955.073	983.224	1003.745	1039.423	1053.860	1047.673	1021.584	1003.229	970.438
35.0	947.546	974.872	996.423	1033.236	1046.642	1040.455	1013.850	995.186	963.529
35.5	938.162	965.282	989.102	1026.534	1041.486	1033.236	1005.085	985.493	952.392
36.0	927.128	955.383	980.234	1019.212	1034.267	1027.668	996.836	976.934	944.968
36.5	917.539	946.824	973.428	1011.582	1028.184	1020.140	989.205	967.963	936.409
37.0	910.114	937.028	964.148	1005.807	1021.893	1013.335	980.646	958.992	929.294
37.5	900.215	928.985	956.620	998.279	1015.191	1005.188	973.738	950.742	920.323
38.0	889.594	919.601	948.061	991.577	1008.591	997.970	965.488	942.287	909.702
38.5	881.035	910.217	941.152	984.049	1001.167	990.855	956.414	933.934	899.596
39.0	870.723	900.215	932.491	976.728	994.155	983.431	949.196	925.891	889.800
39.5	860.927	890.109	924.654	969.097	987.762	976.212	940.431	916.817	878.354
40.0	850.409	881.963	916.507	962.085	981.781	969.716	932.284	908.464	867.630
40.5	841.541	872.683	908.464	954.661	973.841	962.292	924.241	897.843	857.524
41.0	830.301	862.268	899.906	947.855	965.901	955.073	915.992	888.459	847.419
41.5	821.021	852.059	892.894	940.843	960.539	946.927	907.124	877.220	837.210
42.0	810.296	842.985	883.922	933.109	953.423	941.152	898.977	866.599	828.033
42.5	800.707	833.292	875.364	926.304	946.618	932.903	889.800	857.112	817.927
43.0	790.395	824.733	867.114	918.570	939.606	924.963	882.066	845.769	807.822
43.5	781.424	815.865	858.452	910.836	933.316	917.332	874.436	835.766	798.954
44.0	772.659	805.347	850.409	904.030	926.200	910.733	865.052	825.042	788.332
44.5	760.388	795.448	840.510	896.090	919.085	903.721	858.040	815.555	778.949
45.0	751.416	785.651	833.704	888.872	912.073	894.853	849.894	804.831	769.256
45.5	742.136	776.062	824.114	881.241	903.618	888.253	841.335	796.169	759.563
46.0	731.927	767.915	816.174	872.889	896.606	881.138	833.292	785.961	748.632
46.5	722.956	758.222	807.306	864.330	889.903	872.476	825.042	776.783	739.661
47.0	712.438	747.807	798.954	858.246	882.479	866.495	817.412	767.297	730.381
47.5	702.126	738.527	790.395	849.687	875.879	859.174	809.059	757.500	718.522
48.0	694.083	728.937	782.558	843.603	867.424	849.790	800.913	747.601	710.479
48.5	682.843	719.347	774.102	834.220	860.721	842.882	792.457	738.114	698.620
49.0	676.244	711.304	766.265	827.105	853.296	835.354	783.692	728.937	689.340
49.5	667.376	700.580	757.913	819.577	845.253	828.136	772.968	718.728	680.162
50.0	656.961	692.330	749.560	811.843	838.654	820.402	765.234	708.932	672.222
50.5	646.649	685.009	739.352	804.006	831.229	812.359	756.366	699.755	663.457
51.0	636.956	676.038	732.340	796.066	824.320	804.625	746.570	689.649	652.114
51.5	627.366	667.066	723.162	789.261	817.927	796.994	738.011	683.771	642.318
52.0	617.261	657.064	715.532	781.733	809.884	789.467	728.731	674.388	631.903
52.5	607.980	647.990	706.973	773.793	802.356	781.527	720.584	666.035	622.417
53.0	597.565	637.987	698.002	766.265	794.623	774.824	712.232	655.930	613.136
53.5	588.182	628.707	689.649	758.222	786.889	766.575	702.951	646.237	602.309
54.0	577.973	620.045	682.122	750.385	778.639	758.841	695.424	636.750	591.791
54.5	568.074	609.939	676.038	741.723	772.246	751.520	686.349	626.851	582.407

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CANDELA TABULATION - (Cont.)

55.0	557.453	600.453	668.098	734.299	764.512	743.167	681.194	617.879	571.992
55.5	547.760	591.997	659.333	725.843	756.160	735.227	673.150	608.393	561.680
56.0	538.067	581.685	650.671	717.594	749.148	727.803	664.282	598.596	552.503
56.5	528.786	572.095	642.009	710.169	740.486	718.316	655.002	588.079	541.985
57.0	518.680	562.402	633.656	701.714	733.062	710.479	646.340	578.901	530.951
57.5	509.194	553.637	625.819	693.877	724.193	701.920	637.472	568.589	521.258
58.0	499.913	543.944	616.436	685.834	715.738	693.671	628.397	559.412	511.462
58.5	489.911	534.354	607.774	680.265	707.901	686.865	619.839	549.822	501.047
59.0	480.733	525.074	600.040	674.285	700.270	680.265	610.455	539.613	491.870
59.5	470.834	515.999	590.966	664.592	691.608	672.532	602.102	530.642	481.352
60.0	461.347	506.822	581.582	656.548	686.556	663.973	593.131	521.258	472.484
60.5	451.757	497.438	572.817	649.227	679.131	655.724	585.191	511.153	461.553
61.0	441.342	488.158	564.671	639.947	671.500	646.855	576.014	502.491	451.860
61.5	431.959	478.774	556.421	631.388	663.457	638.400	567.661	492.179	442.064
62.0	422.369	469.597	547.966	623.345	654.486	630.769	558.071	483.105	432.062
62.5	412.882	460.625	539.510	614.992	645.721	621.489	550.028	473.412	422.369
63.0	403.705	451.242	530.951	606.640	637.472	613.342	541.160	464.338	412.882
63.5	394.012	442.477	522.290	597.668	629.325	604.784	532.086	454.851	403.395
64.0	384.009	433.299	514.040	589.316	620.870	596.534	523.733	445.467	393.084
64.5	373.697	424.122	504.863	580.551	611.796	588.594	514.659	436.393	383.494
65.0	364.726	415.666	496.304	572.198	603.443	579.520	506.410	427.112	373.801
65.5	355.755	406.489	487.848	564.465	595.709	571.167	498.160	417.832	364.417
66.0	345.959	397.414	479.805	554.772	587.047	562.299	488.880	408.448	354.724
66.5	337.400	388.649	470.937	546.832	577.973	553.637	480.733	399.271	345.237
67.0	328.016	380.091	462.378	538.170	569.620	544.460	471.453	390.402	336.266
67.5	319.148	371.223	454.232	529.095	560.546	536.314	463.616	381.637	327.088
68.0	309.971	362.664	445.055	521.568	552.297	527.858	454.645	372.563	318.220
68.5	301.000	354.208	437.218	512.184	543.738	518.680	445.880	363.695	308.321
69.0	292.028	345.031	428.762	504.553	535.076	510.637	437.424	355.343	299.556
69.5	282.542	336.472	420.410	495.479	526.311	502.182	429.278	346.371	289.760
70.0	273.983	328.016	411.645	487.127	517.546	493.004	420.410	337.194	280.995
70.5	265.424	318.942	403.498	478.258	509.091	484.961	411.954	328.326	272.127
71.0	256.040	310.899	395.249	470.422	500.532	476.299	403.705	319.561	262.949
71.5	247.585	302.237	387.515	461.966	491.973	468.359	394.940	310.899	253.875
72.0	238.820	294.400	378.647	452.995	483.311	459.491	387.103	302.650	244.388
72.5	230.158	285.945	370.707	444.848	475.268	451.448	378.544	293.781	235.520
73.0	221.393	278.004	362.251	435.980	466.400	442.374	370.398	285.223	227.477
73.5	213.144	269.961	354.311	427.215	457.532	434.021	362.251	276.870	218.506
74.0	204.688	261.609	346.371	419.791	449.386	425.565	353.796	268.518	210.050
74.5	195.717	253.153	337.709	411.026	440.518	417.419	346.165	259.856	201.079
75.0	187.158	245.419	329.976	403.189	432.681	408.757	338.225	251.916	192.933
75.5	179.424	237.582	322.448	394.527	424.122	400.508	329.873	243.460	184.477
76.0	170.866	229.746	314.508	386.793	415.769	392.568	322.345	235.726	176.125
76.5	163.132	222.115	306.774	378.544	407.314	384.009	314.199	227.374	168.494
77.0	155.501	214.484	299.040	370.191	398.858	376.069	306.052	219.640	160.348
77.5	147.664	206.957	291.513	362.458	391.124	367.717	298.319	211.494	152.511
78.0	139.621	199.429	284.088	354.414	382.462	359.880	290.894	204.172	144.674
78.5	131.990	192.314	276.458	346.578	374.625	352.043	283.367	196.645	136.940
79.0	124.463	184.993	269.343	338.638	366.376	344.000	275.633	189.427	129.619
79.5	117.554	177.774	262.331	331.110	358.849	336.988	268.518	182.002	121.782
80.0	110.542	170.556	255.112	323.170	351.321	328.841	261.093	174.784	114.770
80.5	103.324	163.647	247.997	315.952	343.072	321.520	254.184	168.288	107.551
81.0	96.312	157.048	241.088	308.321	335.647	313.683	247.172	161.172	100.849
81.5	89.609	150.345	234.076	301.103	328.016	306.362	240.264	154.676	94.043
82.0	83.010	143.952	227.374	293.885	319.870	299.144	233.355	148.283	87.444
82.5	76.926	137.352	220.671	287.285	312.446	291.513	226.343	141.993	81.153

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CANDELA TABULATION - (Cont.)

83.0	70.429	131.165	214.072	280.067	305.434	284.295	220.053	135.702	74.863
83.5	64.345	125.185	207.575	273.055	298.009	277.592	213.247	129.619	68.779
84.0	58.364	119.307	201.285	266.146	290.997	270.786	207.163	123.638	62.798
84.5	52.590	113.532	194.995	259.650	283.985	263.877	200.770	117.863	57.230
85.0	47.228	108.170	188.705	252.844	277.180	256.969	194.479	112.295	51.456
85.5	41.866	102.499	182.930	246.141	270.271	250.575	188.499	106.314	46.093
86.0	36.504	97.240	177.156	240.057	263.568	244.182	182.312	100.952	40.628
86.5	31.451	92.084	171.587	233.767	257.175	237.582	176.640	95.487	35.369
87.0	26.398	87.031	165.813	227.683	250.678	231.602	171.072	90.331	30.110
87.5	21.758	82.288	160.451	222.115	244.491	225.724	165.297	85.278	25.058
88.0	17.221	77.132	155.398	216.443	238.820	219.949	160.038	80.122	20.005
88.5	12.683	72.698	150.758	211.288	233.045	214.690	155.089	75.069	14.849
89.0	8.146	68.470	146.427	206.235	227.993	209.328	150.242	70.635	10.002
89.5	4.022	64.964	142.302	201.595	222.940	204.688	146.117	66.717	5.259
90.0	1.444	61.767	138.693	197.057	218.093	199.945	142.302	63.314	1.650
90.5	0.928	59.086	135.187	192.726	213.247	195.304	138.487	60.427	0.928
91.0	0.928	56.818	131.681	188.499	208.710	191.180	134.568	58.158	0.825
91.5	0.928	55.168	128.691	184.374	204.379	187.158	131.578	56.405	0.825
92.0	0.928	53.724	125.597	180.765	200.460	183.549	128.691	54.962	0.825
92.5	0.928	52.384	123.432	177.465	196.645	180.043	126.216	53.621	0.825
93.0	0.928	51.146	121.163	174.268	193.036	176.846	123.947	52.281	0.825
93.5	0.928	49.909	119.101	171.484	189.942	173.856	121.782	51.043	0.825
94.0	0.928	48.775	117.141	168.597	186.849	171.072	119.926	49.806	0.825
94.5	0.928	47.640	115.388	166.122	184.065	168.494	117.966	48.568	0.825
95.0	0.928	46.506	113.635	163.647	181.383	165.710	116.007	47.434	0.825
95.5	0.928	45.475	111.676	161.172	178.393	163.338	114.151	46.403	0.825
96.0	0.928	44.444	110.026	158.698	175.815	160.760	112.295	45.372	0.825
96.5	0.928	43.412	108.170	156.429	173.237	158.491	110.336	44.237	0.825
97.0	0.928	42.381	106.520	153.851	170.556	155.810	108.686	43.206	0.825
97.5	0.928	41.350	104.664	151.789	167.978	153.645	106.933	42.278	0.825
98.0	0.928	40.422	103.014	149.314	165.607	151.273	105.077	41.247	0.825
98.5	0.928	39.597	101.468	147.149	163.235	148.902	103.427	40.216	0.825
99.0	0.928	38.566	99.611	145.086	160.863	146.633	101.674	39.288	0.825
99.5	0.928	37.638	98.065	142.921	158.388	144.467	100.024	38.360	0.825
100.0	0.928	36.813	96.312	140.755	156.017	142.302	98.271	37.432	0.825
100.5	0.928	35.885	94.765	138.590	153.542	140.240	96.724	36.607	0.928
101.0	0.928	35.163	93.218	136.424	151.376	138.177	95.177	35.679	0.928
101.5	0.928	34.235	91.568	134.362	149.211	135.909	93.424	34.854	0.928
102.0	1.031	33.513	90.125	132.300	146.736	134.053	91.981	34.029	0.928
102.5	1.031	32.688	88.578	130.340	144.364	132.093	90.331	33.204	0.928
103.0	1.031	31.966	87.031	128.278	142.199	130.031	88.784	32.379	0.928
103.5	1.031	31.141	85.484	126.525	140.137	127.969	87.340	31.554	0.928
104.0	1.031	30.420	84.144	124.669	138.074	126.009	85.691	30.729	0.928
104.5	1.031	29.698	82.597	122.503	136.115	124.050	84.247	30.007	1.031
105.0	1.031	28.976	81.257	120.750	133.846	122.194	82.803	29.285	1.031
105.5	1.031	28.254	79.916	118.894	131.887	120.132	81.360	28.564	1.031
106.0	1.031	27.532	78.472	116.935	129.928	118.276	79.813	27.842	1.031
106.5	1.031	26.914	77.132	115.285	127.659	116.420	78.472	27.223	1.031
107.0	1.134	26.192	75.791	113.429	125.906	114.460	77.029	26.501	1.031
107.5	1.134	25.573	74.348	111.470	124.050	112.707	75.791	25.882	1.031
108.0	1.134	24.954	73.007	109.923	122.091	110.954	74.451	25.264	1.031
108.5	1.134	24.233	71.873	108.067	120.235	109.304	73.007	24.542	1.134
109.0	1.134	23.614	70.532	106.314	118.379	107.551	71.667	23.923	1.134
109.5	1.134	22.995	69.192	104.561	116.626	105.798	70.429	23.305	1.134
110.0	1.134	22.480	68.057	102.911	114.770	104.045	69.192	22.686	1.134
110.5	1.134	21.861	66.820	101.364	112.914	102.292	67.851	22.067	1.134

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CANDELA TABULATION - (Cont.)

111.0	1.134	21.242	65.583	99.715	111.264	100.849	66.614	21.552	1.134
111.5	1.237	20.727	64.448	98.168	109.511	99.096	65.273	20.933	1.134
112.0	1.237	20.108	63.211	96.415	107.861	97.446	64.139	20.314	1.134
112.5	1.237	19.592	61.974	95.074	106.108	95.899	62.902	19.799	1.237
113.0	1.237	19.077	60.942	93.321	104.355	94.352	61.664	19.180	1.237
113.5	1.237	18.561	59.602	91.774	102.602	92.599	60.530	18.664	1.237
114.0	1.237	17.942	58.571	90.331	101.158	91.053	59.396	18.149	1.237
114.5	1.237	17.427	57.436	88.784	99.405	89.609	58.158	17.530	1.237
115.0	1.237	17.014	56.302	87.340	97.858	88.062	56.921	17.014	1.237
115.5	1.237	16.396	55.168	85.897	96.209	86.515	55.787	16.499	1.237
116.0	1.237	15.983	54.137	84.247	94.662	85.072	54.652	15.983	1.341
116.5	1.237	15.468	53.002	82.906	93.115	83.628	53.621	15.571	1.341
117.0	1.237	14.952	51.868	81.360	91.465	82.081	52.487	15.055	1.341
117.5	1.237	14.436	50.837	80.019	90.021	80.638	51.352	14.540	1.341
118.0	1.237	14.024	49.909	78.472	88.475	79.194	50.321	14.024	1.341
118.5	1.237	13.508	48.878	77.132	87.031	77.751	49.290	13.611	1.341
119.0	1.237	13.096	47.846	75.791	85.484	76.410	48.259	13.096	1.341
119.5	1.237	12.580	46.815	74.451	83.938	75.069	47.228	12.683	1.341
120.0	1.237	12.168	45.784	72.904	82.494	73.523	46.093	12.168	1.341
120.5	1.237	11.755	44.753	71.770	80.947	72.182	45.165	11.755	1.444
121.0	1.237	11.240	43.825	70.326	79.400	70.842	44.134	11.343	1.444
121.5	1.237	10.724	42.897	68.986	78.163	69.501	43.206	10.827	1.444
122.0	1.237	10.312	41.969	67.645	76.513	68.161	42.278	10.415	1.444
122.5	1.237	9.899	40.938	66.304	75.173	66.717	41.350	10.002	1.444
123.0	1.237	9.487	40.010	65.067	73.729	65.480	40.319	9.590	1.444
123.5	1.237	9.074	39.081	63.727	72.285	64.242	39.391	9.177	1.444
124.0	1.237	8.662	38.257	62.386	70.945	62.902	38.463	8.765	1.444
124.5	1.237	8.249	37.328	61.149	69.604	61.458	37.535	8.353	1.547
125.0	1.237	7.837	36.400	59.911	68.264	60.221	36.607	7.940	1.547
125.5	1.237	7.424	35.472	58.674	66.820	58.983	35.679	7.528	1.547
126.0	1.237	7.115	34.544	57.540	65.480	57.746	34.751	7.115	1.547
126.5	1.237	6.703	33.719	56.302	64.139	56.508	33.926	6.703	1.547
127.0	1.237	6.290	32.894	55.065	62.695	55.271	33.101	6.393	1.547
127.5	1.237	5.981	32.070	53.930	61.458	54.034	32.173	5.981	1.547
128.0	1.237	5.568	31.141	52.693	60.221	53.002	31.348	5.671	1.650
128.5	1.237	5.259	30.213	51.559	58.983	51.868	30.523	5.362	1.650
129.0	1.237	4.950	29.388	50.321	57.643	50.631	29.698	5.053	1.650
129.5	1.237	4.743	28.667	49.187	56.405	49.496	28.873	4.847	1.650
130.0	1.341	4.434	27.945	48.053	55.168	48.362	28.151	4.537	1.650
130.5	1.341	4.228	27.017	47.022	53.930	47.331	27.326	4.331	1.753
131.0	1.341	4.022	26.295	45.990	52.693	46.093	26.501	4.125	1.753
131.5	1.341	3.815	25.573	44.856	51.456	45.062	25.779	3.918	1.753
132.0	1.341	3.609	24.748	43.825	50.218	43.928	24.954	3.712	1.753
132.5	1.341	3.403	24.026	42.691	49.084	42.897	24.233	3.506	1.753
133.0	1.341	3.300	23.305	41.556	47.950	41.763	23.511	3.403	1.856
133.5	1.341	3.197	22.480	40.525	46.712	40.731	22.686	3.300	1.856
134.0	1.341	3.094	21.655	39.494	45.681	39.597	21.964	3.197	1.856
134.5	1.341	2.990	20.830	38.463	44.444	38.566	21.242	3.094	1.856
135.0	1.341	2.887	20.005	37.432	43.309	37.535	20.520	2.990	1.856
135.5	1.341	2.784	19.283	36.297	42.175	36.504	19.799	2.887	1.856
136.0	1.341	2.681	18.458	35.266	41.041	35.472	19.077	2.784	1.856
136.5	1.341	2.681	17.736	34.338	39.906	34.441	18.458	2.784	1.959
137.0	1.341	2.578	16.911	33.410	38.772	33.410	17.736	2.681	1.959
137.5	1.341	2.578	16.189	32.379	37.741	32.482	17.014	2.681	1.959
138.0	1.341	2.475	15.468	31.348	36.710	31.451	16.396	2.578	1.959
138.5	1.341	2.475	14.849	30.420	35.679	30.523	15.777	2.578	1.959

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CANDELA TABULATION - (Cont.)

139.0	1.444	2.475	14.127	29.492	34.647	29.492	15.158	2.475	2.062
139.5	1.444	2.372	13.405	28.564	33.616	28.667	14.540	2.475	2.062
140.0	1.444	2.372	12.787	27.635	32.585	27.635	13.818	2.475	2.062
140.5	1.444	2.372	12.168	26.604	31.554	26.707	13.199	2.372	2.062
141.0	1.444	2.269	11.652	25.779	30.523	25.779	12.580	2.372	2.062
141.5	1.444	2.269	11.034	24.851	29.492	24.954	11.962	2.372	2.165
142.0	1.444	2.269	10.518	24.026	28.564	24.026	11.343	2.372	2.165
142.5	1.444	2.165	10.002	23.098	27.532	23.098	10.724	2.269	2.165
143.0	1.444	2.165	9.487	22.273	26.604	22.170	10.209	2.269	2.165
143.5	1.547	2.165	8.971	21.345	25.676	21.345	9.590	2.269	2.165
144.0	1.547	2.165	8.456	20.520	24.645	20.520	9.074	2.165	2.165
144.5	1.547	2.165	7.940	19.695	23.717	19.592	8.456	2.165	2.269
145.0	1.547	2.062	7.528	18.767	22.789	18.767	7.940	2.165	2.269
145.5	1.547	2.062	7.012	17.942	21.861	17.942	7.424	2.165	2.269
146.0	1.547	2.062	6.600	17.221	20.933	17.117	6.909	2.165	2.269
146.5	1.547	2.062	6.187	16.396	20.005	16.293	6.496	2.165	2.269
147.0	1.547	2.062	5.775	15.571	19.180	15.468	6.084	2.062	2.269
147.5	1.547	2.062	5.362	14.746	18.252	14.746	5.671	2.062	2.372
148.0	1.650	2.062	5.053	13.921	17.427	13.921	5.362	2.062	2.372
148.5	1.650	2.062	4.743	13.096	16.499	13.199	5.053	2.062	2.372
149.0	1.650	2.062	4.537	12.168	15.674	12.374	4.743	2.062	2.372
149.5	1.650	2.062	4.228	11.446	14.849	11.652	4.537	2.062	2.372
150.0	1.650	2.062	4.022	10.621	14.024	10.930	4.331	2.165	2.372
150.5	1.650	2.062	3.918	9.899	13.199	10.209	4.125	2.062	2.475
151.0	1.650	2.062	3.712	9.177	12.374	9.487	3.918	2.062	2.475
151.5	1.753	2.062	3.609	8.559	11.652	8.868	3.815	2.165	2.475
152.0	1.753	2.165	3.506	7.837	10.827	8.146	3.609	2.165	2.475
152.5	1.753	2.165	3.403	7.321	10.106	7.528	3.506	2.165	2.475
153.0	1.753	2.165	3.300	6.806	9.281	6.909	3.403	2.165	2.475
153.5	1.753	2.165	3.197	6.290	8.559	6.393	3.300	2.165	2.475
154.0	1.753	2.165	3.094	5.775	7.837	5.981	3.197	2.165	2.578
154.5	1.856	2.165	2.990	5.362	7.218	5.465	3.094	2.165	2.578
155.0	1.856	2.165	2.887	4.950	6.600	5.053	2.990	2.165	2.578
155.5	1.856	2.269	2.887	4.640	6.084	4.743	2.990	2.165	2.578
156.0	1.856	2.269	2.784	4.331	5.568	4.434	2.887	2.269	2.578
156.5	1.959	2.269	2.784	4.022	5.156	4.125	2.784	2.269	2.578
157.0	1.959	2.269	2.681	3.815	4.743	3.918	2.784	2.269	2.578
157.5	1.959	2.269	2.681	3.712	4.331	3.712	2.681	2.269	2.578
158.0	1.959	2.269	2.578	3.506	4.125	3.506	2.681	2.269	2.681
158.5	1.959	2.372	2.578	3.403	3.815	3.403	2.578	2.269	2.681
159.0	2.062	2.372	2.475	3.197	3.609	3.197	2.578	2.372	2.681
159.5	2.062	2.372	2.475	3.094	3.403	3.094	2.475	2.372	2.681
160.0	2.062	2.372	2.475	2.990	3.300	2.990	2.475	2.372	2.681
160.5	2.062	2.372	2.372	2.887	3.094	2.887	2.475	2.372	2.681
161.0	2.062	2.372	2.372	2.784	2.990	2.784	2.372	2.372	2.681
161.5	2.165	2.372	2.372	2.784	2.887	2.784	2.372	2.372	2.681
162.0	2.165	2.475	2.372	2.681	2.784	2.681	2.372	2.372	2.681
162.5	2.165	2.475	2.372	2.578	2.681	2.578	2.372	2.475	2.681
163.0	2.165	2.475	2.372	2.475	2.578	2.578	2.372	2.475	2.784
163.5	2.165	2.475	2.372	2.475	2.475	2.475	2.372	2.475	2.784
164.0	2.269	2.475	2.372	2.372	2.475	2.372	2.372	2.475	2.784
164.5	2.269	2.475	2.372	2.372	2.372	2.372	2.372	2.475	2.784
165.0	2.269	2.578	2.372	2.372	2.372	2.372	2.372	2.475	2.784
165.5	2.269	2.578	2.372	2.372	2.269	2.372	2.372	2.578	2.784
166.0	2.372	2.578	2.475	2.372	2.269	2.269	2.475	2.578	2.784
166.5	2.372	2.578	2.475	2.372	2.269	2.269	2.475	2.578	2.784

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CANDELA TABULATION - (Cont.)

167.0	2.372	2.578	2.475	2.269	2.165	2.269	2.475	2.578	2.784
167.5	2.372	2.578	2.475	2.269	2.165	2.269	2.475	2.578	2.784
168.0	2.372	2.578	2.475	2.269	2.165	2.269	2.475	2.578	2.784
168.5	2.475	2.681	2.475	2.269	2.165	2.269	2.475	2.578	2.784
169.0	2.475	2.681	2.475	2.372	2.165	2.372	2.475	2.681	2.784
169.5	2.475	2.681	2.475	2.372	2.165	2.372	2.475	2.681	2.784
170.0	2.475	2.681	2.475	2.372	2.165	2.269	2.475	2.681	2.784
170.5	2.475	2.681	2.475	2.372	2.165	2.372	2.475	2.681	2.784
171.0	2.475	2.681	2.578	2.372	2.165	2.372	2.475	2.681	2.784
171.5	2.475	2.681	2.578	2.372	2.165	2.372	2.578	2.681	2.784
172.0	2.475	2.681	2.578	2.372	2.165	2.372	2.578	2.681	2.784
172.5	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
173.0	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
173.5	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
174.0	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
174.5	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
175.0	2.578	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
175.5	2.681	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
176.0	2.681	2.681	2.578	2.372	2.269	2.372	2.578	2.681	2.784
176.5	2.681	2.681	2.578	2.475	2.269	2.372	2.578	2.681	2.784
177.0	2.681	2.784	2.578	2.475	2.269	2.372	2.578	2.784	2.784
177.5	2.681	2.784	2.578	2.475	2.269	2.372	2.578	2.784	2.784
178.0	2.681	2.784	2.578	2.475	2.269	2.475	2.578	2.784	2.784
178.5	2.681	2.784	2.578	2.475	2.269	2.475	2.578	2.784	2.784
179.0	2.784	2.784	2.578	2.475	2.269	2.475	2.681	2.784	2.784
179.5	2.784	2.784	2.578	2.475	2.269	2.475	2.578	2.784	2.784
180.0	2.578	2.578	2.578	2.578	2.578	2.578	2.578	2.578	2.578

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_28W_4000K_.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	482.73	N.A.	11.40
0-30	1014.02	N.A.	24.00
0-40	1644.08	N.A.	38.80
0-60	2894.13	N.A.	68.40
0-80	3730.06	N.A.	88.10
0-90	3928.81	N.A.	92.80
10-90	3803.02	N.A.	89.80
20-40	1161.35	N.A.	27.40
20-50	1811.00	N.A.	42.80
40-70	1741.72	N.A.	41.10
60-80	835.93	N.A.	19.70
70-80	344.26	N.A.	8.10
80-90	198.75	N.A.	4.70
90-110	194.85	N.A.	4.60
90-120	247.49	N.A.	5.80
90-130	279.01	N.A.	6.60
90-150	302.00	N.A.	7.10
90-180	304.82	N.A.	7.20
110-180	109.97	N.A.	2.60
0-180	4233.62	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	125.79
10-20	356.94
20-30	531.29
30-40	630.06
40-50	649.65
50-60	600.40
60-70	491.67
70-80	344.26
80-90	198.75
90-100	115.09
100-110	79.76
110-120	52.64
120-130	31.52
130-140	16.34
140-150	6.65
150-160	1.88
160-170	0.70
170-180	0.24

IES INDOOR REPORT
PHOTOMETRIC FILENAME : FS-4-LS-8CS-DIM-UNV_28W_4000K_.IES

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_28W_4000K_.IES

UGR TABLE - CORRECTED

Reflectances

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

Room Size UGR Viewed Crosswise

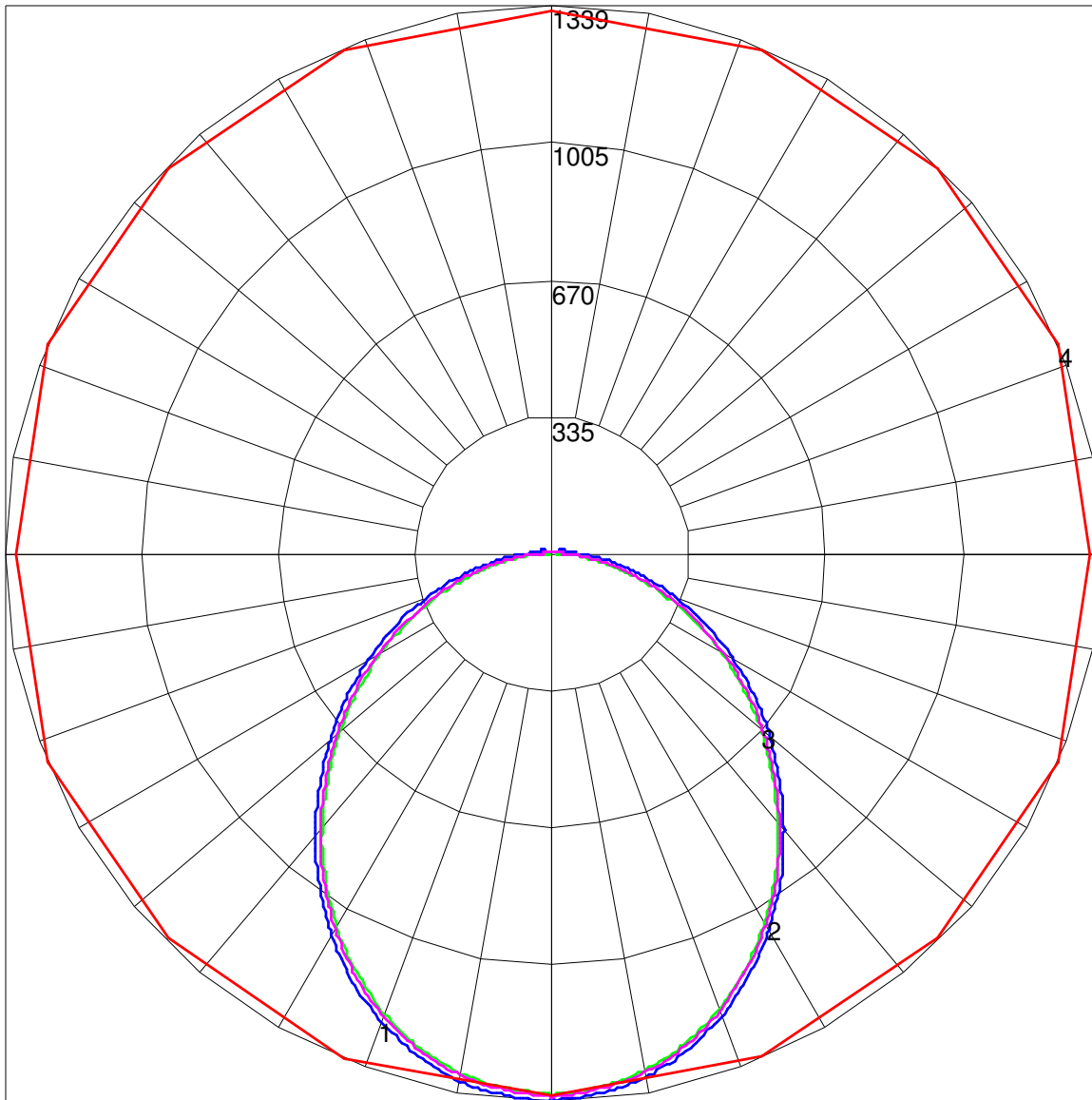
X=2H	Y=2H	19.8	21.4	20.3	21.8	22.3	22.3	23.8	22.7	24.3	24.7
	3H	21.3	22.7	21.8	23.2	23.7	24.7	26.1	25.2	26.5	27.1
	4H	21.8	23.1	22.3	23.6	24.1	25.8	27.1	26.3	27.6	28.2
	6H	22.1	23.3	22.6	23.8	24.4	26.9	28.2	27.5	28.7	29.2
	8H	22.2	23.3	22.7	23.9	24.4	27.5	28.7	28.0	29.2	29.8
	12H	22.2	23.3	22.7	23.8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

UGR Viewed Endwise

4H	2H	20.8	22.1	21.3	22.6	23.1	22.7	24.0	23.2	24.5	25.0
	3H	22.5	23.6	23.0	24.2	24.7	25.4	26.5	25.9	27.0	27.6
	4H	23.1	24.1	23.6	24.7	25.3	26.6	27.7	27.2	28.2	28.8
	6H	23.5	24.4	24.1	25.0	25.6	28.0	28.9	28.5	29.4	30.0
	8H	23.6	24.5	24.2	25.1	25.7	28.6	29.5	29.2	30.0	30.7
	12H	23.7	24.5	24.3	25.1	25.7	29.4	30.1	29.9	30.7	31.4
8H	4H	23.8	24.7	24.4	25.2	25.8	26.8	27.7	27.4	28.3	28.9
	6H	24.4	25.1	25.0	25.7	26.4	28.3	29.1	28.9	29.7	30.3
	8H	24.6	25.3	25.2	25.9	26.5	29.2	29.8	29.8	30.4	31.0
	12H	24.7	25.3	25.4	25.9	26.6	30.1	30.6	30.7	31.2	31.9
12H	4H	24.0	24.8	24.6	25.4	26.0	26.8	27.6	27.4	28.2	28.8
	6H	24.7	25.4	25.3	25.9	26.6	28.4	29.0	29.0	29.6	30.3
	8H	25.0	25.6	25.6	26.2	26.9	29.2	29.8	29.8	30.4	31.1

Maximum UGR = 31.9

POLAR GRAPH



Maximum Candela = 1339.495 Located At Horizontal Angle = 157.5, Vertical Angle = .5
1 - Vertical Plane Through Horizontal Angles (157.5 - 337.5) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (5 - 185)
3 - Vertical Plane Through Horizontal Angles (10 - 190)
4 - Horizontal Cone Through Vertical Angle (.5) (Through Max. Cd.)