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Lighting calculations are based on information supplied and subject to change

WWW.TUROLIGHT.COM

IES INDOOR REPORT

PHOTOMETRIC FILENAME : HD-A19-I90-9W-5CCT-D_120V.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]
[TESTLAB] EVERFINE
[TESTDATE] 2024-10-28
[ISSUE DATE] 2024-10-28 09:55:09
[LAMPPOSITION] 0,0
[OTHER]
[MANUFAC] TUROLIGHT Inc.
[LUMCAT] HD-A19-I90-6W-5CCT_120V

CHARACTERISTICS

Lumens Per Lamp	800 (1 lamp)
Total Lamp Lumens	800
Luminaire Lumens	821
Total Luminaire Efficiency	103 %
Luminaire Efficacy Rating (LER)	104
Total Luminaire Watts	7.88046
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.32
Spacing Criterion (90-270)	1.44
Spacing Criterion (Diagonal)	1.56
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.05 m (Diameter)
Luminous Width (90-270)	0.05 m (Diameter)
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	77502	80987	87567
55	85892	89945	97613
65	102908	107457	116300
75	145514	150887	161564
85	367010	376513	396577

IES INDOOR REPORT
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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>	<u>202.5</u>
0	140.060	140.060	140.060	140.060	140.060	140.060	140.060	140.060	140.060	140.060
1	139.710	139.870	140.030	140.200	140.240	140.280	140.260	140.350	140.260	140.270
2	139.410	139.630	139.900	140.200	140.350	140.490	140.530	140.620	140.500	140.420
3	139.070	139.380	139.740	140.170	140.450	140.690	140.760	140.860	140.720	140.540
4	138.700	139.100	139.550	140.120	140.510	140.860	140.980	141.080	140.900	140.640
5	138.290	138.760	139.330	140.040	140.560	141.010	141.210	141.280	141.060	140.670
6	137.890	138.430	139.090	139.920	140.600	141.120	141.370	141.460	141.180	140.720
7	137.430	138.040	138.830	139.770	140.580	141.210	141.510	141.600	141.280	140.750
8	136.950	137.630	138.510	139.590	140.550	141.290	141.640	141.730	141.350	140.740
9	136.470	137.240	138.180	139.400	140.480	141.340	141.740	141.840	141.400	140.710
10	135.960	136.790	137.830	139.190	140.420	141.360	141.830	141.900	141.450	140.630
11	135.440	136.330	137.490	138.950	140.320	141.350	141.870	141.940	141.440	140.550
12	134.910	135.840	137.090	138.700	140.210	141.340	141.920	141.940	141.420	140.440
13	134.330	135.300	136.680	138.390	140.060	141.310	141.930	141.940	141.360	140.310
14	133.750	134.770	136.250	138.110	139.900	141.240	141.920	141.930	141.300	140.160
15	133.120	134.210	135.770	137.780	139.690	141.140	141.880	141.880	141.190	139.990
16	132.490	133.630	135.280	137.420	139.480	141.030	141.820	141.820	141.060	139.780
17	131.880	133.040	134.780	137.030	139.230	140.880	141.720	141.730	140.920	139.560
18	131.210	132.440	134.260	136.620	138.970	140.720	141.630	141.630	140.750	139.300
19	130.540	131.820	133.720	136.200	138.690	140.530	141.510	141.460	140.570	139.010
20	129.830	131.180	133.130	135.740	138.360	140.350	141.370	141.310	140.370	138.740
21	129.140	130.490	132.540	135.260	138.040	140.120	141.200	141.120	140.130	138.410
22	128.370	129.780	131.930	134.780	137.700	139.880	141.010	140.940	139.870	138.070
23	127.620	129.070	131.300	134.290	137.330	139.600	140.760	140.710	139.590	137.690
24	126.870	128.380	130.660	133.770	136.920	139.300	140.540	140.460	139.280	137.290
25	126.120	127.640	130.000	133.210	136.480	138.980	140.240	140.190	138.930	136.870
26	125.330	126.840	129.320	132.610	136.020	138.610	139.940	139.870	138.570	136.400
27	124.530	126.080	128.600	132.020	135.540	138.220	139.610	139.540	138.170	135.910
28	123.710	125.290	127.880	131.370	135.030	137.770	139.250	139.140	137.740	135.400
29	122.860	124.480	127.150	130.710	134.490	137.340	138.860	138.740	137.270	134.880
30	122.020	123.650	126.330	130.050	133.900	136.840	138.430	138.290	136.770	134.300
31	121.150	122.810	125.540	129.360	133.310	136.330	137.960	137.830	136.240	133.680
32	120.280	121.960	124.740	128.640	132.670	135.770	137.460	137.320	135.700	133.040
33	119.410	121.090	123.930	127.920	132.010	135.170	136.920	136.760	135.080	132.340
34	118.480	120.200	123.070	127.110	131.320	134.560	136.330	136.160	134.440	131.630
35	117.570	119.270	122.200	126.320	130.600	133.880	135.690	135.520	133.790	130.890
36	116.590	118.350	121.310	125.470	129.830	133.180	135.030	134.850	133.070	130.120
37	115.640	117.410	120.390	124.630	129.040	132.400	134.340	134.130	132.310	129.330
38	114.700	116.460	119.480	123.760	128.220	131.650	133.600	133.380	131.540	128.490
39	113.740	115.510	118.550	122.840	127.330	130.820	132.810	132.570	130.720	127.620
40	112.750	114.490	117.580	121.920	126.470	129.990	132.000	131.770	129.880	126.700
41	111.740	113.480	116.580	120.940	125.560	129.080	131.140	130.880	128.940	125.770
42	110.740	112.470	115.600	120.010	124.620	128.170	130.230	129.970	128.020	124.830
43	109.710	111.460	114.590	119.000	123.650	127.200	129.300	128.990	127.050	123.810
44	108.680	110.420	113.550	117.970	122.630	126.230	128.320	128.020	126.050	122.800
45	107.650	109.400	112.490	116.920	121.630	125.220	127.300	126.980	125.040	121.760
46	106.610	108.360	111.440	115.880	120.540	124.140	126.240	125.930	123.950	120.670
47	105.530	107.280	110.360	114.810	119.480	123.040	125.180	124.830	122.870	119.560
48	104.480	106.200	109.300	113.700	118.370	121.910	124.050	123.700	121.720	118.440
49	103.370	105.110	108.180	112.590	117.230	120.760	122.880	122.540	120.540	117.270
50	102.300	103.990	107.070	111.470	116.080	119.600	121.680	121.370	119.350	116.110
51	101.210	102.900	105.960	110.310	114.900	118.390	120.470	120.110	118.090	114.900
52	100.090	101.810	104.790	109.160	113.710	117.150	119.230	118.840	116.840	113.670
53	99.014	100.670	103.680	107.960	112.480	115.900	117.960	117.560	115.560	112.390

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CANDELA TABULATION - (Cont.)

54	97.881	99.540	102.480	106.780	111.280	114.640	116.700	116.260	114.300	111.110
55	96.774	98.406	101.340	105.570	109.980	113.320	115.350	114.920	112.930	109.830
56	95.657	97.256	100.160	104.340	108.730	111.960	113.990	113.520	111.600	108.510
57	94.540	96.116	98.964	103.120	107.420	110.640	112.600	112.150	110.220	107.210
58	93.396	94.966	97.775	101.860	106.130	109.250	111.190	110.710	108.840	105.830
59	92.262	93.821	96.559	100.580	104.790	107.890	109.750	109.310	107.400	104.490
60	91.139	92.643	95.353	99.305	103.450	106.450	108.300	107.800	105.980	103.080
61	89.998	91.487	94.118	98.054	102.110	105.040	106.860	106.350	104.520	101.700
62	88.880	90.315	92.906	96.755	100.720	103.600	105.380	104.850	103.070	100.290
63	87.708	89.142	91.679	95.444	99.354	102.140	103.870	103.360	101.610	98.887
64	86.585	87.957	90.451	94.148	97.947	100.650	102.360	101.810	100.080	97.444
65	85.430	86.795	89.207	92.832	96.548	99.141	100.810	100.250	98.587	95.979
66	84.274	85.634	87.985	91.515	95.149	97.654	99.278	98.694	97.066	94.540
67	83.113	84.434	86.724	90.166	93.711	96.150	97.734	97.129	95.534	93.075
68	81.973	83.245	85.485	88.839	92.284	94.634	96.136	95.553	93.980	91.621
69	80.823	82.083	84.214	87.506	90.835	93.092	94.560	93.966	92.432	90.122
70	79.700	80.916	82.985	86.178	89.408	91.560	92.989	92.362	90.911	88.656
71	78.539	79.705	81.725	84.823	87.965	90.039	91.402	90.797	89.362	87.180
72	77.408	78.522	80.462	83.436	86.521	88.511	89.831	89.208	87.830	85.735
73	76.242	77.339	79.223	82.114	85.056	86.935	88.211	87.599	86.243	84.226
74	75.129	76.183	77.968	80.781	83.596	85.409	86.618	86.001	84.673	82.749
75	73.980	75.008	76.712	79.419	82.140	83.866	85.019	84.397	83.118	81.294
76	72.851	73.835	75.479	78.103	80.724	82.334	83.459	82.815	81.597	79.845
77	71.712	72.663	74.229	76.781	79.269	80.813	81.872	81.234	80.064	78.363
78	70.600	71.513	73.007	75.442	77.793	79.270	80.269	79.663	78.500	76.898
79	69.478	70.340	71.768	74.093	76.366	77.733	78.698	78.070	76.985	75.443
80	68.366	69.174	70.551	72.744	74.945	76.212	77.139	76.516	75.464	74.000
81	67.222	68.013	69.302	71.417	73.524	74.729	75.606	74.984	73.970	72.567
82	66.132	66.890	68.090	70.106	72.086	73.214	74.031	73.425	72.439	71.124
83	65.023	65.773	66.866	68.807	70.681	71.725	72.510	71.902	70.968	69.739
84	63.950	64.650	65.693	67.535	69.277	70.248	70.979	70.392	69.498	68.346
85	62.833	63.533	64.460	66.296	67.895	68.805	69.502	68.910	68.087	66.968
86	61.754	62.397	63.298	65.017	66.532	67.361	68.019	67.450	66.648	65.608
87	60.665	61.263	62.098	63.766	65.167	65.918	66.548	65.968	65.222	64.231
88	59.581	60.108	60.926	62.461	63.834	64.513	65.116	64.535	63.844	62.892
89	58.535	59.046	59.781	61.157	62.496	63.152	63.678	63.141	62.440	61.587
90	57.446	58.006	58.592	59.952	61.185	61.786	62.279	61.731	61.096	60.293
91	56.428	56.928	57.501	58.785	59.875	60.409	60.875	60.359	59.742	58.998
92	55.361	55.833	56.346	57.612	58.609	59.065	59.526	59.010	58.448	57.732
93	54.354	54.732	55.251	56.367	57.354	57.781	58.182	57.710	57.149	56.504
94	53.315	53.649	54.117	55.102	56.115	56.476	56.871	56.394	55.893	55.265
95	52.294	52.676	53.020	53.985	54.860	55.219	55.561	55.125	54.622	54.057
96	51.320	51.663	51.985	52.895	53.644	53.969	54.268	53.853	53.389	52.868
97	50.320	50.623	50.901	51.744	52.477	52.735	53.024	52.614	52.200	51.712
98	49.352	49.571	49.856	50.559	51.313	51.540	51.821	51.402	51.026	50.572
99	48.362	48.603	48.794	49.471	50.158	50.362	50.610	50.208	49.864	49.444
100	47.432	47.646	47.792	48.453	49.035	49.201	49.427	49.040	48.709	48.338
101	46.476	46.684	46.780	47.391	47.924	48.045	48.272	47.890	47.598	47.237
102	45.552	45.689	45.812	46.301	46.829	46.955	47.128	46.806	46.498	46.197
103	44.606	44.732	44.773	45.218	45.768	45.854	46.043	45.700	45.441	45.130
104	43.704	43.853	43.837	44.262	44.717	44.787	44.949	44.632	44.380	44.128
105	42.814	42.940	42.897	43.315	43.689	43.736	43.898	43.581	43.351	43.127
106	41.926	41.984	41.976	42.309	42.677	42.710	42.859	42.566	42.334	42.140
107	41.041	41.061	41.047	41.298	41.682	41.698	41.836	41.560	41.367	41.183
108	40.156	40.226	40.129	40.402	40.730	40.724	40.841	40.591	40.404	40.243
109	39.310	39.376	39.249	39.519	39.760	39.751	39.860	39.618	39.445	39.297

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CANDELA TABULATION - (Cont.)

110	38.463	38.497	38.364	38.596	38.826	38.805	38.919	38.672	38.522	38.390
111	37.639	37.618	37.507	37.651	37.924	37.870	37.985	37.754	37.620	37.499
112	36.821	36.783	36.655	36.794	37.018	36.952	37.084	36.847	36.725	36.631
113	35.997	35.998	35.820	35.964	36.133	36.072	36.183	35.973	35.851	35.779
114	35.211	35.201	35.001	35.151	35.276	35.198	35.304	35.093	35.005	34.933
115	34.431	34.377	34.199	34.283	34.436	34.352	34.458	34.264	34.181	34.114
116	33.635	33.559	33.392	33.432	33.606	33.522	33.623	33.434	33.358	33.296
117	32.879	32.818	32.619	32.669	32.810	32.706	32.804	32.629	32.561	32.518
118	32.121	32.077	31.840	31.900	32.008	31.899	31.992	31.838	31.776	31.744
119	31.391	31.325	31.093	31.126	31.223	31.124	31.218	31.052	31.002	30.980
120	30.661	30.559	30.341	30.354	30.474	30.361	30.479	30.300	30.258	30.239
121	29.953	29.851	29.627	29.613	29.743	29.620	29.732	29.564	29.550	29.525
122	29.234	29.138	28.902	28.889	28.992	28.878	28.986	28.829	28.804	28.790
123	28.548	28.452	28.205	28.181	28.273	28.159	28.251	28.104	28.096	28.071
124	27.862	27.750	27.514	27.479	27.587	27.462	27.554	27.413	27.405	27.385
125	27.187	27.080	26.834	26.798	26.907	26.777	26.880	26.732	26.741	26.688
126	26.513	26.406	26.159	26.113	26.216	26.096	26.211	26.068	26.072	26.002
127	25.876	25.765	25.506	25.477	25.552	25.438	25.547	25.410	25.414	25.333
128	25.237	25.128	24.872	24.836	24.889	24.793	24.884	24.765	24.757	24.666
129	24.617	24.482	24.258	24.200	24.281	24.173	24.270	24.140	24.159	24.007
130	23.992	23.873	23.622	23.575	23.667	23.554	23.656	23.526	23.551	23.349
131	23.400	23.265	23.030	22.972	23.039	22.945	23.044	22.923	22.922	22.697
132	22.797	22.664	22.416	22.377	22.436	22.359	22.436	22.337	22.320	22.050
133	22.211	22.073	21.829	21.780	21.861	21.767	21.867	21.745	21.750	21.408
134	21.641	21.503	21.271	21.226	21.313	21.214	21.313	21.197	21.186	20.778
135	21.061	20.922	20.706	20.652	20.738	20.644	20.744	20.622	20.605	20.147
136	20.518	20.375	20.153	20.115	20.164	20.086	20.175	20.074	20.020	19.528
137	19.971	19.844	19.600	19.573	19.644	19.554	19.644	19.527	19.478	18.903
138	19.440	19.313	19.086	19.043	19.119	19.029	19.118	18.996	18.930	18.300
139	18.892	18.788	18.566	18.534	18.610	18.526	18.598	18.470	18.399	17.697
140	18.395	18.268	18.064	18.014	18.085	18.024	18.057	17.957	17.841	17.101
141	17.876	17.765	17.544	17.516	17.581	17.531	17.526	17.432	17.304	16.509
142	17.394	17.262	17.063	17.024	17.095	17.034	16.994	16.907	16.768	15.923
143	16.891	16.777	16.576	16.545	16.621	16.552	16.443	16.403	16.255	15.342
144	16.415	16.290	16.111	16.080	16.156	16.049	15.867	15.889	15.724	14.773
145	15.940	15.837	15.658	15.616	15.697	15.557	15.288	15.380	15.198	14.198
146	15.481	15.372	15.204	15.162	15.244	15.065	14.773	14.855	14.629	13.623
147	15.027	14.930	14.772	14.720	14.802	14.617	14.259	14.363	14.109	13.086
148	14.579	14.488	14.336	14.300	14.376	14.125	13.745	13.843	13.567	12.538
149	14.136	14.056	13.915	13.885	13.956	13.676	13.242	13.356	13.019	12.013
150	13.721	13.653	13.511	13.471	13.547	13.212	12.767	12.765	12.410	11.422
151	13.319	13.238	13.125	13.100	13.143	12.776	12.331	12.076	11.713	10.826
152	12.920	12.851	12.722	12.691	12.762	12.361	11.960	11.462	11.039	10.207
153	12.539	12.464	12.334	12.304	12.386	11.952	11.600	10.859	10.392	9.566
154	12.152	12.089	11.958	11.929	12.005	11.543	11.186	10.305	9.780	8.902
155	11.781	11.702	11.587	11.569	11.629	11.144	10.766	9.747	9.200	8.200
156	11.399	11.337	11.211	11.193	11.258	10.746	10.323	9.238	8.664	7.553
157	11.018	10.972	10.852	10.845	10.860	10.342	9.853	8.767	8.151	6.911
158	10.636	10.596	10.509	10.474	10.495	9.972	9.383	8.517	7.731	6.264
159	10.249	10.225	10.138	10.115	10.125	9.574	8.907	8.164	7.415	5.650
160	9.857	9.855	9.779	9.761	9.743	9.181	8.431	7.771	7.028	5.118
161	9.469	9.467	9.409	9.401	9.356	8.777	7.928	7.373	6.636	4.648
162	9.067	9.064	9.034	9.009	8.952	8.386	7.442	6.861	6.242	4.190
163	8.674	8.671	8.652	8.627	8.565	7.982	7.000	6.237	5.786	3.747
164	8.260	8.262	8.259	8.218	8.156	7.573	6.546	5.481	5.114	3.354
165	7.840	7.859	7.850	7.820	7.747	7.169	6.128	4.794	4.168	2.967

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CANDELA TABULATION - (Cont.)

166	7.408	7.444	7.436	7.400	7.338	6.744	5.758	4.213	3.019	2.629
167	6.955	7.018	6.999	6.968	6.912	6.323	5.420	3.835	1.936	2.325
168	6.513	6.565	6.546	6.493	6.464	5.875	5.099	3.629	1.479	2.059
169	6.043	6.094	6.038	6.017	6.010	5.384	4.756	3.468	1.774	1.887
170	5.562	5.596	5.458	5.508	5.523	4.848	4.363	3.275	2.208	1.726
171	5.009	5.048	4.790	4.937	4.974	4.284	3.919	2.971	2.422	1.506
172	4.374	4.439	4.093	4.299	4.329	3.731	3.323	2.437	1.972	1.235
173	3.554	3.700	3.382	3.395	3.380	2.977	2.377	1.645	1.373	1.113
174	2.354	2.627	2.461	2.252	2.162	1.885	1.439	1.133	1.100	1.100
175	1.339	1.516	1.483	1.319	1.270	1.162	1.117	1.106	1.111	1.100
176	1.125	1.111	1.116	1.106	1.128	1.128	1.117	1.106	1.111	1.100
177	1.117	1.117	1.111	1.122	1.128	1.122	1.123	1.111	1.123	1.106
178	1.117	1.123	1.111	1.123	1.133	1.122	1.133	1.111	1.133	1.106
179	1.117	1.133	1.111	1.139	1.133	1.128	1.133	1.117	1.128	1.117
180	1.133	1.133	1.133	1.133	1.133	1.133	1.133	1.133	1.133	1.133

Vert. Horizontal Angles

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0	140.060	140.060	140.060	140.060	140.060	140.060	140.060
1	140.210	140.110	139.890	139.790	139.640	139.710	139.710
2	140.260	140.030	139.680	139.510	139.290	139.360	139.410
3	140.290	139.950	139.460	139.190	138.930	138.990	139.070
4	140.270	139.820	139.200	138.880	138.540	138.570	138.700
5	140.220	139.670	138.950	138.510	138.090	138.140	138.290
6	140.160	139.490	138.660	138.140	137.690	137.710	137.890
7	140.080	139.300	138.340	137.750	137.230	137.240	137.430
8	139.970	139.070	138.030	137.350	136.770	136.740	136.950
9	139.830	138.810	137.660	136.910	136.270	136.220	136.470
10	139.680	138.550	137.310	136.480	135.760	135.700	135.960
11	139.470	138.290	136.930	136.020	135.260	135.150	135.440
12	139.250	137.980	136.510	135.550	134.720	134.600	134.910
13	139.030	137.660	136.100	135.030	134.160	134.010	134.330
14	138.810	137.320	135.660	134.530	133.580	133.420	133.750
15	138.530	136.940	135.190	133.980	133.020	132.810	133.120
16	138.230	136.530	134.730	133.440	132.420	132.200	132.490
17	137.930	136.120	134.220	132.880	131.810	131.550	131.880
18	137.590	135.710	133.700	132.280	131.180	130.890	131.210
19	137.230	135.260	133.180	131.680	130.520	130.210	130.540
20	136.830	134.800	132.620	131.060	129.840	129.510	129.830
21	136.430	134.320	132.080	130.430	129.150	128.800	129.140
22	136.030	133.790	131.470	129.780	128.440	128.060	128.370
23	135.570	133.260	130.880	129.110	127.760	127.340	127.620
24	135.090	132.710	130.250	128.440	127.020	126.590	126.870
25	134.600	132.130	129.610	127.750	126.290	125.820	126.120
26	134.080	131.580	128.950	127.000	125.530	125.020	125.330
27	133.510	130.940	128.250	126.280	124.740	124.240	124.530
28	132.950	130.300	127.540	125.510	123.960	123.430	123.710
29	132.350	129.630	126.790	124.760	123.140	122.620	122.860
30	131.720	128.910	126.060	123.950	122.320	121.780	122.020
31	131.050	128.180	125.270	123.150	121.520	120.910	121.150
32	130.340	127.430	124.470	122.330	120.660	120.070	120.280
33	129.610	126.670	123.640	121.510	119.810	119.200	119.410
34	128.850	125.890	122.780	120.640	118.900	118.280	118.480
35	128.060	125.070	121.940	119.740	118.010	117.340	117.570
36	127.270	124.230	121.050	118.860	117.090	116.440	116.590

IES INDOOR REPORT**PHOTOMETRIC FILENAME : HD-A19-I90-9W-5CCT-D_120V.IES****CANDELA TABULATION - (Cont.)**

37	126.420	123.350	120.200	117.940	116.160	115.490	115.640
38	125.560	122.460	119.280	117.020	115.230	114.580	114.700
39	124.630	121.530	118.340	116.060	114.280	113.610	113.740
40	123.710	120.600	117.400	115.110	113.310	112.640	112.750
41	122.750	119.640	116.400	114.140	112.300	111.630	111.740
42	121.790	118.660	115.420	113.160	111.350	110.650	110.740
43	120.790	117.640	114.430	112.160	110.350	109.610	109.710
44	119.780	116.640	113.430	111.130	109.330	108.590	108.680
45	118.740	115.590	112.370	110.120	108.280	107.550	107.650
46	117.640	114.510	111.330	109.090	107.270	106.520	106.610
47	116.570	113.440	110.260	108.050	106.220	105.480	105.530
48	115.420	112.350	109.200	106.990	105.180	104.400	104.480
49	114.280	111.240	108.100	105.900	104.090	103.340	103.370
50	113.120	110.130	106.990	104.830	103.050	102.260	102.300
51	111.960	108.980	105.900	103.760	101.970	101.180	101.210
52	110.750	107.830	104.750	102.670	100.860	100.110	100.090
53	109.540	106.650	103.660	101.560	99.766	98.982	99.014
54	108.350	105.480	102.490	100.430	98.627	97.898	97.881
55	107.070	104.270	101.370	99.307	97.564	96.797	96.774
56	105.800	103.050	100.200	98.184	96.442	95.686	95.657
57	104.520	101.860	99.041	97.051	95.336	94.574	94.540
58	103.250	100.610	97.858	95.928	94.192	93.451	93.396
59	101.940	99.392	96.680	94.772	93.080	92.334	92.262
60	100.640	98.120	95.491	93.633	91.963	91.184	91.139
61	99.289	96.895	94.294	92.482	90.827	90.056	89.998
62	97.961	95.597	93.127	91.321	89.720	88.928	88.880
63	96.606	94.363	91.895	90.160	88.549	87.810	87.708
64	95.255	93.080	90.705	89.001	87.431	86.691	86.585
65	93.900	91.797	89.500	87.818	86.298	85.562	85.430
66	92.534	90.514	88.294	86.657	85.164	84.418	84.274
67	91.168	89.226	87.056	85.490	83.997	83.273	83.113
68	89.758	87.926	85.839	84.312	82.841	82.123	81.973
69	88.381	86.626	84.600	83.162	81.675	81.000	80.823
70	87.004	85.338	83.389	81.989	80.568	79.855	79.700
71	85.632	84.044	82.156	80.794	79.407	78.705	78.539
72	84.255	82.775	80.948	79.600	78.260	77.566	77.408
73	82.850	81.465	79.726	78.461	77.104	76.421	76.242
74	81.462	80.181	78.509	77.283	75.981	75.320	75.129
75	80.078	78.871	77.303	76.081	74.848	74.179	73.980
76	78.712	77.571	76.070	74.947	73.697	73.034	72.851
77	77.319	76.294	74.853	73.802	72.553	71.912	71.712
78	75.942	75.022	73.659	72.635	71.435	70.811	70.600
79	74.587	73.739	72.453	71.468	70.313	69.699	69.478
80	73.216	72.489	71.253	70.285	69.206	68.588	68.366
81	71.893	71.222	70.026	69.162	68.046	67.460	67.222
82	70.506	69.945	68.853	68.023	66.950	66.382	66.132
83	69.206	68.682	67.651	66.878	65.825	65.303	65.023
84	67.857	67.437	66.494	65.728	64.752	64.225	63.950
85	66.557	66.215	65.267	64.578	63.630	63.146	62.833
86	65.239	64.971	64.127	63.486	62.540	62.060	61.754
87	63.951	63.754	62.933	62.397	61.423	60.965	60.665
88	62.696	62.532	61.793	61.279	60.360	59.848	59.581
89	61.413	61.342	60.643	60.146	59.288	58.820	58.535
90	60.174	60.153	59.476	59.062	58.204	57.813	57.446
91	58.930	58.953	58.392	58.006	57.175	56.779	56.428
92	57.725	57.786	57.253	56.944	56.102	55.711	55.361

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

93	56.531	56.652	56.179	55.860	55.095	54.633	54.354
94	55.358	55.508	55.046	54.749	54.023	53.600	53.315
95	54.175	54.388	53.976	53.732	53.013	52.665	52.294
96	53.009	53.265	52.903	52.730	52.034	51.675	51.320
97	51.903	52.170	51.863	51.707	51.011	50.668	50.320
98	50.800	51.097	50.812	50.670	50.048	49.648	49.352
99	49.710	50.030	49.772	49.637	49.031	48.714	48.362
100	48.616	48.973	48.771	48.691	48.101	47.779	47.432
101	47.565	47.917	47.748	47.723	47.117	46.844	46.476
102	46.526	46.937	46.785	46.755	46.182	45.849	45.552
103	45.503	45.915	45.763	45.760	45.226	44.926	44.606
104	44.502	44.930	44.822	44.837	44.318	44.074	43.704
105	43.512	43.957	43.876	43.924	43.428	43.178	42.814
106	42.539	42.991	42.960	43.001	42.523	42.243	41.926
107	41.588	42.062	42.009	42.072	41.638	41.332	41.041
108	40.659	41.144	41.107	41.193	40.759	40.502	40.156
109	39.733	40.220	40.222	40.327	39.901	39.664	39.310
110	38.837	39.324	39.338	39.448	39.039	38.812	38.463
111	37.952	38.461	38.480	38.585	38.198	37.955	37.639
112	37.084	37.576	37.617	37.723	37.363	37.109	36.821
113	36.216	36.735	36.787	36.904	36.544	36.324	35.997
114	35.382	35.884	35.947	36.114	35.736	35.539	35.211
115	34.580	35.087	35.156	35.306	34.956	34.742	34.431
116	33.772	34.252	34.343	34.482	34.155	33.941	33.635
117	32.982	33.485	33.565	33.714	33.399	33.172	32.879
118	32.202	32.700	32.769	32.956	32.630	32.442	32.121
119	31.434	31.931	32.011	32.199	31.889	31.690	31.391
120	30.695	31.179	31.258	31.438	31.148	30.951	30.661
121	29.976	30.438	30.517	30.697	30.418	30.232	29.953
122	29.246	29.730	29.804	29.983	29.709	29.525	29.234
123	28.538	29.016	29.096	29.287	29.018	28.839	28.548
124	27.858	28.314	28.382	28.584	28.327	28.153	27.862
125	27.178	27.622	27.696	27.882	27.646	27.468	27.187
126	26.476	26.953	27.005	27.202	26.966	26.810	26.513
127	25.779	26.295	26.363	26.550	26.324	26.157	25.876
128	25.093	25.622	25.707	25.897	25.668	25.516	25.237
129	24.435	24.997	25.071	25.239	25.043	24.869	24.617
130	23.760	24.388	24.440	24.603	24.412	24.261	23.992
131	23.054	23.764	23.831	23.995	23.804	23.658	23.400
132	22.346	23.161	23.212	23.388	23.185	23.057	22.797
133	21.666	22.552	22.620	22.780	22.587	22.459	22.211
134	20.963	21.988	22.023	22.177	21.990	21.873	21.641
135	20.233	21.407	21.447	21.597	21.420	21.304	21.061
136	19.465	20.849	20.889	21.033	20.856	20.751	20.518
137	18.751	20.290	20.325	20.474	20.302	20.198	19.971
138	18.021	19.748	19.793	19.921	19.766	19.651	19.440
139	17.280	19.107	19.235	19.374	19.218	19.114	18.892
140	16.528	18.429	18.727	18.843	18.705	18.611	18.395
141	15.793	17.705	18.197	18.329	18.175	18.097	17.876
142	15.074	16.926	17.693	17.820	17.682	17.583	17.394
143	14.385	16.113	17.179	17.324	17.173	17.092	16.891
144	13.699	15.229	16.681	16.821	16.681	16.611	16.415
145	13.041	14.311	16.172	16.334	16.205	16.141	15.940
146	12.406	13.311	15.702	15.864	15.740	15.676	15.481
147	11.803	12.326	15.215	15.383	15.276	15.206	15.027
148	11.217	11.265	14.740	14.924	14.822	14.775	14.579

IES INDOOR REPORT
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CANDELA TABULATION - (Cont.)

149	10.631	10.187	14.269	14.465	14.380	14.322	14.136
150	10.084	9.015	13.799	14.040	13.943	13.901	13.721
151	9.570	7.775	13.358	13.619	13.523	13.481	13.319
152	9.098	6.542	12.915	13.188	13.114	13.072	12.920
153	8.472	5.347	12.468	12.795	12.716	12.674	12.539
154	7.761	4.360	12.025	12.382	12.312	12.277	12.152
155	7.035	3.535	11.594	11.967	11.919	11.906	11.781
156	6.223	2.859	11.162	11.563	11.516	11.525	11.399
157	5.437	2.354	10.731	11.160	11.139	11.127	11.018
158	4.620	2.059	10.289	10.761	10.747	10.740	10.636
159	3.963	1.947	9.868	10.352	10.354	10.358	10.249
160	3.411	2.045	9.448	9.960	9.962	9.976	9.857
161	2.905	2.227	9.033	9.561	9.553	9.595	9.469
162	2.645	2.365	8.619	9.158	9.161	9.185	9.067
163	2.391	2.410	8.194	8.754	8.746	8.781	8.674
164	2.164	2.383	7.773	8.306	8.332	8.367	8.260
165	1.916	2.323	7.358	7.875	7.889	7.942	7.840
166	1.650	2.235	6.933	7.416	7.458	7.500	7.408
167	1.363	2.135	6.479	6.929	6.994	7.068	6.955
168	1.155	1.986	5.982	6.420	6.491	6.592	6.513
169	1.078	1.837	5.413	5.872	5.982	6.105	6.043
170	1.078	1.616	4.778	5.251	5.408	5.512	5.562
171	1.089	1.346	4.000	4.441	4.762	4.820	5.009
172	1.100	1.162	2.750	3.349	3.825	4.067	4.374
173	1.100	1.101	1.509	1.972	2.499	3.240	3.554
174	1.106	1.100	1.105	1.133	1.407	2.070	2.354
175	1.106	1.100	1.100	1.111	1.120	1.161	1.339
176	1.117	1.100	1.100	1.111	1.111	1.122	1.125
177	1.117	1.100	1.100	1.128	1.111	1.122	1.117
178	1.128	1.111	1.117	1.128	1.111	1.122	1.117
179	1.128	1.117	1.117	1.139	1.122	1.128	1.117
180	1.133	1.133	1.133	1.133	1.133	1.133	1.133

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	52.16	6.50	6.40
0-30	113.50	14.20	13.80
0-40	192.48	24.10	23.40
0-60	376.97	47.10	45.90
0-80	552.39	69.00	67.30
0-90	624.47	78.10	76.00
10-90	611.16	76.40	74.40
20-40	140.32	17.50	17.10
20-50	230.50	28.80	28.10
40-70	276.22	34.50	33.60
60-80	175.42	21.90	21.40
70-80	83.69	10.50	10.20
80-90	72.08	9.00	8.80
90-110	105.04	13.10	12.80
90-120	139.45	17.40	17.00
90-130	163.90	20.50	20.00
90-150	189.93	23.70	23.10
90-180	196.87	24.60	24.00
110-180	91.83	11.50	11.20
0-180	821.34	102.70	100.00

Total Luminaire Efficiency = 102.70%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	13.31
10-20	38.85
20-30	61.34
30-40	78.98
40-50	90.18
50-60	94.31
60-70	91.73
70-80	83.69
80-90	72.08
90-100	58.97
100-110	46.07
110-120	34.41
120-130	24.45
130-140	16.27
140-150	9.76
150-160	4.88
160-170	1.82
170-180	0.24

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	116	116	116	116	116	111	111	111	111	100	100	100	91	91	91	82	82	82	78
1	102	96	90	85	85	97	91	86	81	82	78	74	74	70	67	66	63	61	57
2	91	81	73	66	66	86	77	70	63	69	63	58	62	57	53	56	52	48	44
3	82	70	61	53	53	78	67	58	51	60	53	47	54	48	43	48	43	39	36
4	75	61	51	44	44	70	58	49	42	53	45	39	47	41	36	42	37	33	30
5	68	54	44	37	37	64	52	43	36	47	39	33	42	36	30	38	32	28	25
6	63	48	39	32	32	59	46	37	31	42	34	28	38	31	26	34	28	24	21
7	58	44	34	28	28	55	42	33	27	38	30	25	34	28	23	31	25	21	19
8	54	40	31	24	24	51	38	29	24	34	27	22	31	25	20	28	23	19	16
9	50	36	27	22	22	47	35	26	21	31	24	19	29	23	18	26	21	17	15
10	47	33	25	19	19	44	32	24	19	29	22	18	26	21	16	24	19	15	13

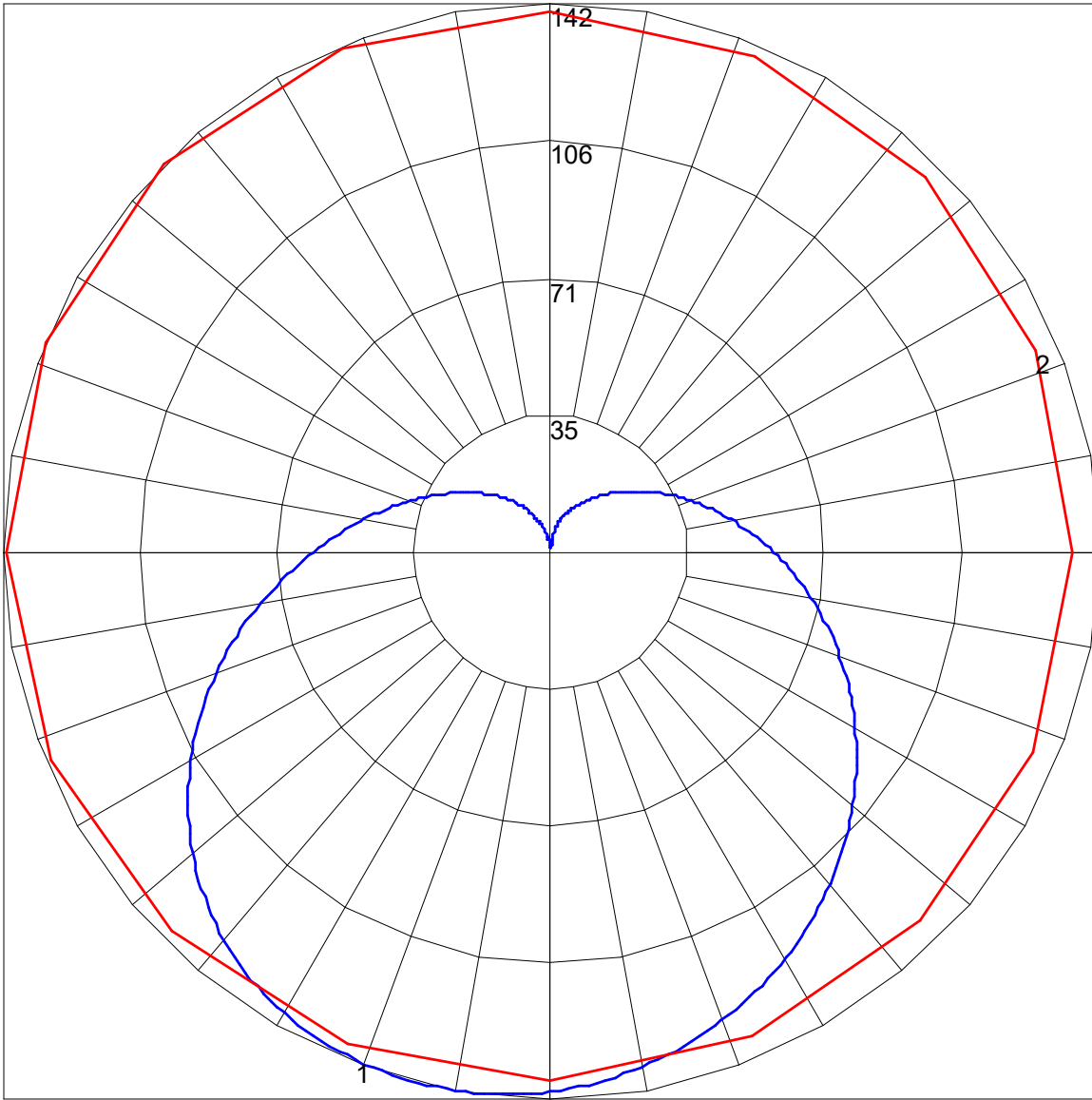
IES INDOOR REPORT
PHOTOMETRIC FILENAME : HD-A19-I90-9W-5CCT-D_120V.IES

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					UGR Viewed Endwise				
X=2H	Y=2H	24.8	26.1	25.5	26.8	27.6	25.6	26.9	26.3	27.6	28.5
	3H	27.7	28.9	28.4	29.6	30.5	28.5	29.7	29.2	30.4	31.3
	4H	29.2	30.4	29.9	31.1	32.0	30.0	31.1	30.7	31.9	32.7
	6H	30.9	32.0	31.6	32.7	33.6	31.6	32.7	32.3	33.4	34.3
	8H	31.8	32.8	32.5	33.6	34.5	32.5	33.5	33.2	34.3	35.2
	12H	32.8	33.8	33.6	34.6	35.5	33.5	34.4	34.2	35.2	36.1
4H	2H	25.7	26.9	26.4	27.6	28.5	26.5	27.6	27.2	28.3	29.2
	3H	28.9	29.9	29.6	30.7	31.6	29.6	30.6	30.4	31.4	32.3
	4H	30.6	31.5	31.3	32.3	33.2	31.3	32.2	32.0	33.0	33.9
	6H	32.4	33.2	33.2	34.0	35.0	33.1	33.9	33.9	34.7	35.6
	8H	33.4	34.2	34.2	35.0	35.9	34.1	34.8	34.8	35.6	36.6
	12H	34.6	35.3	35.4	36.1	37.1	35.2	35.9	36.0	36.7	37.7
8H	4H	31.3	32.1	32.1	32.9	33.8	31.9	32.7	32.7	33.5	34.5
	6H	33.4	34.1	34.2	34.9	35.9	34.0	34.7	34.8	35.5	36.5
	8H	34.6	35.2	35.4	36.0	37.0	35.2	35.8	36.0	36.6	37.6
	12H	36.0	36.5	36.8	37.3	38.4	36.5	37.1	37.3	37.9	38.9
12H	4H	31.5	32.2	32.3	33.0	34.0	32.1	32.8	32.9	33.6	34.6
	6H	33.7	34.3	34.5	35.1	36.1	34.3	34.9	35.1	35.7	36.7
	8H	35.0	35.6	35.8	36.4	37.4	35.6	36.1	36.4	37.0	38.0

Maximum UGR = 38.9

POLAR GRAPH



Maximum Candela = 141.94 Located At Horizontal Angle = 157.5, Vertical Angle = 11
1 - Vertical Plane Through Horizontal Angles (157.5 - 337.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (11) (Through Max. Cd.)