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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-I90-11W-5CCT-D_120V.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]
[TESTLAB] EVERFINE
[TESTDATE] 04 November 2024
[ISSUE DATE] 2025-02-13 15:05:47
[LAMPPOSITION] 0,0
[OTHER]
[MANUFAC] TUROLIGHT Inc.
[LUMCAT] HD-A19-I90-11W-5CCT-D 120V

CHARACTERISTICS

Lumens Per Lamp	1100 (1 lamp)
Total Lamp Lumens	1100
Luminaire Lumens	1098
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	114
Total Luminaire Watts	9.6507
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.42
Spacing Criterion (90-270)	1.38
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	117135	115177	111333
55	130346	128251	123840
65	154693	152368	147778
75	214002	211209	206587
85	521838	517282	512726

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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	189.440	189.440	189.440	189.440	189.440	189.440	189.440	189.440	189.440	189.440
1	189.600	189.610	189.520	189.450	189.100	189.130	189.130	189.200	189.330	189.470
2	189.690	189.610	189.460	189.310	188.900	188.870	188.890	188.940	189.130	189.350
3	189.730	189.590	189.370	189.120	188.660	188.580	188.600	188.640	188.920	189.210
4	189.780	189.560	189.230	188.910	188.400	188.260	188.270	188.360	188.680	189.030
5	189.780	189.480	189.070	188.700	188.090	187.920	187.890	188.010	188.400	188.810
6	189.770	189.380	188.890	188.410	187.780	187.530	187.490	187.650	188.080	188.570
7	189.700	189.250	188.680	188.120	187.420	187.120	187.080	187.240	187.730	188.300
8	189.600	189.090	188.450	187.820	187.040	186.690	186.640	186.790	187.360	188.000
9	189.460	188.910	188.170	187.450	186.630	186.210	186.160	186.310	186.960	187.690
10	189.290	188.700	187.900	187.080	186.160	185.720	185.640	185.830	186.520	187.330
11	189.110	188.460	187.560	186.670	185.710	185.180	185.080	185.280	186.080	186.950
12	188.870	188.190	187.210	186.280	185.220	184.630	184.520	184.750	185.570	186.530
13	188.620	187.870	186.840	185.800	184.690	184.050	183.930	184.170	185.060	186.080
14	188.330	187.560	186.450	185.350	184.160	183.440	183.300	183.570	184.530	185.620
15	187.990	187.180	186.040	184.850	183.600	182.820	182.640	182.940	183.950	185.120
16	187.620	186.790	185.580	184.370	183.030	182.150	181.970	182.270	183.360	184.590
17	187.240	186.370	185.100	183.800	182.430	181.490	181.270	181.590	182.720	184.020
18	186.840	185.930	184.620	183.280	181.790	180.810	180.540	180.870	182.070	183.440
19	186.370	185.470	184.100	182.690	181.130	180.070	179.800	180.130	181.390	182.810
20	185.900	184.970	183.560	182.090	180.480	179.330	179.010	179.370	180.670	182.150
21	185.390	184.450	182.990	181.460	179.770	178.570	178.240	178.580	179.930	181.470
22	184.860	183.880	182.400	180.800	179.060	177.770	177.390	177.770	179.150	180.750
23	184.320	183.320	181.760	180.110	178.310	176.960	176.550	176.910	178.360	180.000
24	183.720	182.710	181.110	179.400	177.540	176.120	175.670	176.040	177.490	179.210
25	183.100	182.080	180.430	178.700	176.730	175.260	174.760	175.120	176.640	178.400
26	182.440	181.410	179.730	177.930	175.940	174.360	173.840	174.190	175.750	177.550
27	181.760	180.690	179.000	177.130	175.070	173.450	172.910	173.260	174.820	176.660
28	181.050	179.990	178.250	176.310	174.200	172.500	171.920	172.250	173.830	175.740
29	180.290	179.240	177.460	175.490	173.290	171.520	170.910	171.240	172.850	174.780
30	179.470	178.450	176.630	174.600	172.360	170.510	169.880	170.190	171.800	173.780
31	178.650	177.610	175.800	173.670	171.400	169.480	168.810	169.100	170.730	172.790
32	177.770	176.740	174.910	172.760	170.380	168.420	167.700	168.000	169.630	171.710
33	176.870	175.850	174.000	171.800	169.350	167.340	166.570	166.880	168.480	170.630
34	175.890	174.900	173.020	170.790	168.280	166.220	165.430	165.710	167.330	169.490
35	174.900	173.910	172.000	169.740	167.180	165.090	164.240	164.530	166.140	168.310
36	173.860	172.910	170.960	168.650	166.060	163.910	163.040	163.280	164.940	167.120
37	172.780	171.840	169.900	167.580	164.890	162.720	161.840	162.060	163.670	165.880
38	171.680	170.760	168.820	166.420	163.730	161.490	160.580	160.780	162.390	164.610
39	170.510	169.590	167.670	165.230	162.500	160.230	159.290	159.470	161.060	163.290
40	169.300	168.420	166.460	164.010	161.270	158.980	158.010	158.140	159.760	161.970
41	168.030	167.210	165.200	162.770	160.000	157.650	156.700	156.790	158.360	160.570
42	166.790	165.990	163.980	161.530	158.700	156.350	155.330	155.430	156.950	159.180
43	165.480	164.690	162.690	160.200	157.360	154.980	153.980	154.020	155.560	157.730
44	164.100	163.330	161.360	158.860	156.000	153.620	152.580	152.610	154.090	156.310
45	162.700	161.950	159.980	157.480	154.640	152.240	151.210	151.190	152.660	154.820
46	161.280	160.560	158.590	156.090	153.240	150.800	149.760	149.700	151.140	153.290
47	159.810	159.130	157.140	154.660	151.800	149.350	148.310	148.220	149.650	151.750
48	158.320	157.640	155.690	153.160	150.350	147.890	146.850	146.730	148.090	150.210
49	156.750	156.130	154.150	151.670	148.880	146.390	145.390	145.220	146.550	148.590
50	155.180	154.600	152.610	150.150	147.350	144.910	143.870	143.690	144.940	147.000
51	153.600	153.010	151.070	148.610	145.850	143.390	142.380	142.150	143.390	145.350
52	151.940	151.410	149.460	147.030	144.290	141.850	140.820	140.580	141.750	143.690
53	150.330	149.760	147.860	145.450	142.720	140.300	139.290	139.010	140.150	142.020

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CANDELA TABULATION - (Cont.)

54	148.560	148.090	146.120	143.800	141.160	138.750	137.770	137.440	138.540	140.350
55	146.860	146.410	144.500	142.150	139.530	137.170	136.170	135.850	136.840	138.660
56	145.170	144.700	142.800	140.510	137.920	135.550	134.610	134.210	135.180	136.900
57	143.360	142.940	141.050	138.840	136.270	133.980	133.010	132.600	133.530	135.170
58	141.570	141.140	139.300	137.110	134.630	132.310	131.420	130.960	131.850	133.420
59	139.740	139.340	137.520	135.370	132.950	130.720	129.810	129.330	130.160	131.690
60	137.890	137.530	135.730	133.630	131.270	129.050	128.200	127.660	128.470	129.870
61	136.060	135.700	133.930	131.890	129.580	127.430	126.590	126.040	126.750	128.130
62	134.160	133.830	132.100	130.090	127.870	125.750	124.940	124.350	125.030	126.340
63	132.230	131.940	130.230	128.310	126.130	124.090	123.300	122.710	123.320	124.580
64	130.330	130.040	128.400	126.500	124.400	122.400	121.650	121.020	121.590	122.760
65	128.420	128.160	126.490	124.730	122.680	120.710	120.000	119.330	119.880	120.930
66	126.490	126.240	124.600	122.930	120.950	119.030	118.350	117.660	118.140	119.120
67	124.510	124.270	122.730	121.020	119.200	117.340	116.710	115.980	116.430	117.320
68	122.580	122.340	120.820	119.210	117.400	115.640	115.000	114.300	114.670	115.530
69	120.620	120.400	118.880	117.390	115.640	113.910	113.320	112.600	112.890	113.690
70	118.650	118.440	116.990	115.510	113.890	112.190	111.680	110.910	111.200	111.870
71	116.670	116.460	115.060	113.650	112.110	110.520	109.980	109.260	109.470	110.090
72	114.710	114.500	113.140	111.790	110.370	108.830	108.350	107.570	107.750	108.300
73	112.730	112.520	111.200	109.910	108.560	107.110	106.670	105.900	106.000	106.500
74	110.780	110.590	109.300	108.090	106.810	105.390	105.010	104.220	104.280	104.680
75	108.800	108.630	107.380	106.260	105.030	103.690	103.360	102.560	102.560	102.910
76	106.830	106.680	105.480	104.420	103.300	102.000	101.700	100.920	100.890	101.160
77	104.830	104.710	103.530	102.580	101.510	100.310	100.050	99.245	99.170	99.392
78	102.890	102.770	101.650	100.730	99.764	98.628	98.396	97.568	97.466	97.612
79	100.910	100.810	99.744	98.881	98.037	96.930	96.768	95.928	95.793	95.838
80	99.008	98.868	97.882	97.138	96.269	95.300	95.113	94.284	94.079	94.117
81	96.985	96.937	95.957	95.358	94.586	93.640	93.505	92.655	92.434	92.391
82	95.107	95.016	94.127	93.540	92.849	91.957	91.871	91.016	90.746	90.654
83	93.165	93.123	92.228	91.722	91.129	90.322	90.249	89.402	89.080	88.938
84	91.303	91.284	90.447	89.926	89.442	88.672	88.647	87.785	87.457	87.250
85	89.340	89.454	88.560	88.136	87.780	87.049	87.072	86.178	85.839	85.578
86	87.456	87.587	86.752	86.361	86.070	85.436	85.438	84.587	84.183	83.895
87	85.573	85.694	84.939	84.656	84.393	83.808	83.880	82.969	82.587	82.218
88	83.722	83.774	83.127	82.914	82.732	82.195	82.305	81.394	80.985	80.573
89	81.925	81.984	81.395	81.172	81.071	80.626	80.710	79.841	79.363	78.955
90	80.070	80.274	79.588	79.474	79.448	79.078	79.189	78.315	77.821	77.353
91	78.364	78.569	77.942	77.835	77.836	77.483	77.615	76.757	76.279	75.752
92	76.564	76.767	76.195	76.211	76.230	75.940	76.100	75.248	74.732	74.182
93	74.869	74.956	74.544	74.567	74.677	74.436	74.591	73.776	73.239	72.689
94	73.197	73.344	72.921	72.944	73.156	72.937	73.141	72.293	71.762	71.163
95	71.503	71.759	71.286	71.413	71.609	71.464	71.664	70.836	70.274	69.684
96	69.943	70.141	69.764	69.893	70.084	69.992	70.187	69.391	68.808	68.207
97	68.321	68.518	68.180	68.362	68.624	68.537	68.754	67.984	67.396	66.746
98	66.762	66.905	66.659	66.851	67.199	67.129	67.357	66.583	65.983	65.328
99	65.220	65.396	65.154	65.348	65.739	65.723	65.956	65.203	64.598	63.911
100	63.715	63.941	63.682	63.930	64.343	64.337	64.598	63.834	63.251	62.531
101	62.238	62.474	62.237	62.529	62.936	62.958	63.223	62.487	61.909	61.156
102	60.803	60.971	60.836	61.096	61.536	61.642	61.866	61.183	60.541	59.852
103	59.338	59.549	59.402	59.743	60.210	60.301	60.551	59.857	59.253	58.505
104	57.968	58.218	58.059	58.407	58.885	59.013	59.253	58.564	57.966	57.233
105	56.577	56.886	56.712	57.103	57.560	57.714	57.955	57.292	56.711	55.956
106	55.287	55.523	55.406	55.761	56.289	56.451	56.705	56.056	55.467	54.704
107	53.946	54.123	54.102	54.448	55.034	55.212	55.472	54.817	54.244	53.486
108	52.657	52.868	52.841	53.230	53.795	54.005	54.249	53.611	53.027	52.285
109	51.418	51.691	51.602	52.027	52.565	52.772	53.036	52.425	51.830	51.079

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CANDELA TABULATION - (Cont.)

110	50.189	50.452	50.400	50.810	51.391	51.603	51.862	51.278	50.688	49.915
111	48.977	49.181	49.210	49.603	50.212	50.439	50.704	50.136	49.536	48.800
112	47.792	47.981	48.046	48.408	49.043	49.287	49.552	48.979	48.395	47.675
113	46.634	46.866	46.888	47.305	47.913	48.172	48.427	47.880	47.297	46.566
114	45.514	45.752	45.773	46.206	46.820	47.047	47.334	46.776	46.236	45.483
115	44.410	44.627	44.691	45.108	45.733	45.964	46.252	45.705	45.170	44.406
116	43.311	43.529	43.593	44.026	44.678	44.882	45.192	44.639	44.121	43.357
117	42.232	42.474	42.535	42.977	43.639	43.846	44.159	43.619	43.088	42.358
118	41.177	41.457	41.485	41.971	42.601	42.813	43.120	42.596	42.055	41.346
119	40.202	40.456	40.510	40.964	41.589	41.801	42.125	41.595	41.076	40.361
120	39.185	39.426	39.515	39.956	40.602	40.810	41.138	40.621	40.121	39.404
121	38.205	38.452	38.535	38.971	39.639	39.847	40.164	39.674	39.169	38.451
122	37.253	37.505	37.588	38.030	38.660	38.884	39.201	38.705	38.227	37.526
123	36.327	36.575	36.663	37.115	37.724	37.942	38.254	37.775	37.292	36.606
124	35.413	35.655	35.748	36.185	36.805	37.017	37.335	36.860	36.383	35.708
125	34.520	34.752	34.871	35.276	35.918	36.113	36.426	35.962	35.507	34.842
126	33.638	33.881	33.973	34.406	35.031	35.226	35.533	35.090	34.646	33.981
127	32.788	33.031	33.140	33.556	34.170	34.371	34.663	34.225	33.786	33.132
128	31.952	32.188	32.293	32.717	33.310	33.497	33.813	33.372	32.926	32.296
129	31.129	31.360	31.486	31.868	32.456	32.647	32.969	32.533	32.099	31.484
130	30.317	30.549	30.658	31.057	31.650	31.840	32.142	31.716	31.288	30.688
131	29.527	29.754	29.873	30.262	30.840	31.034	31.311	30.910	30.505	29.898
132	28.748	28.993	29.105	29.490	30.045	30.250	30.510	30.114	29.705	29.135
133	28.006	28.241	28.353	28.722	29.272	29.460	29.732	29.346	28.942	28.356
134	27.249	27.483	27.606	27.976	28.531	28.707	28.974	28.599	28.195	27.609
135	26.529	26.753	26.854	27.235	27.779	27.955	28.227	27.831	27.465	26.846
136	25.820	26.050	26.166	26.520	27.032	27.214	27.465	27.100	26.713	26.127
137	25.117	25.347	25.452	25.817	26.313	26.500	26.746	26.386	25.999	25.380
138	24.445	24.671	24.791	25.125	25.626	25.785	26.037	25.666	25.312	24.644
139	23.780	24.000	24.105	24.443	24.939	25.093	25.328	24.974	24.609	23.941
140	23.138	23.351	23.462	23.778	24.241	24.413	24.630	24.288	23.922	23.212
141	22.483	22.702	22.813	23.123	23.592	23.752	23.949	23.612	23.240	22.498
142	21.871	22.079	22.180	22.485	22.932	23.087	23.267	22.925	22.564	21.773
143	21.244	21.459	21.547	21.859	22.296	22.464	22.603	22.281	21.895	21.102
144	20.659	20.859	20.951	21.243	21.668	21.837	21.921	21.615	21.240	20.399
145	20.064	20.263	20.367	20.642	21.057	21.231	21.229	20.987	20.591	19.701
146	19.495	19.685	19.788	20.052	20.451	20.619	20.525	20.317	19.909	18.965
147	18.938	19.117	19.219	19.474	19.867	20.035	19.779	19.684	19.238	18.288
148	18.386	18.560	18.662	18.906	19.293	19.445	19.076	19.024	18.578	17.585
149	17.845	18.040	18.137	18.365	18.726	18.871	18.383	18.390	17.924	16.909
150	17.320	17.516	17.601	17.824	18.190	18.276	17.707	17.720	17.257	16.206
151	16.829	17.002	17.094	17.304	17.644	17.678	17.030	17.072	16.544	15.536
152	16.336	16.493	16.585	16.790	17.119	17.098	16.344	16.423	15.846	14.839
153	15.865	16.012	16.087	16.282	16.611	16.530	15.734	15.715	15.163	14.071
154	15.395	15.542	15.611	15.797	16.109	15.989	15.173	14.824	14.401	13.292
155	14.945	15.072	15.135	15.321	15.622	15.432	14.681	13.947	13.503	12.475
156	14.486	14.617	14.675	14.855	15.119	14.917	14.177	13.162	12.659	11.685
157	14.031	14.174	14.210	14.390	14.621	14.377	13.614	12.415	11.838	10.825
158	13.566	13.730	13.760	13.930	14.129	13.830	13.019	11.711	11.054	9.997
159	13.100	13.276	13.306	13.470	13.647	13.230	12.434	11.131	10.319	9.132
160	12.630	12.832	12.867	13.005	13.155	12.667	11.790	10.767	9.743	8.309
161	12.159	12.372	12.419	12.545	12.689	12.072	11.135	10.281	9.346	7.514
162	11.674	11.885	11.944	12.052	12.186	11.511	10.453	9.715	8.810	6.785
163	11.176	11.398	11.457	11.571	11.656	10.991	9.745	9.061	8.246	6.060
164	10.673	10.894	10.970	11.057	11.131	10.450	9.090	8.203	7.599	5.367
165	10.159	10.387	10.457	10.560	10.591	9.915	8.465	7.209	6.662	4.760

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CANDELA TABULATION - (Cont.)

166	9.624	9.857	9.937	10.008	10.050	9.336	7.892	6.160	5.333	4.213
167	9.067	9.316	9.386	9.456	9.498	8.762	7.362	5.335	3.701	3.688
168	8.515	8.747	8.818	8.866	8.908	8.141	6.897	4.861	2.332	3.206
169	7.904	8.179	8.153	8.260	8.312	7.465	6.464	4.616	1.862	2.784
170	7.319	7.551	7.418	7.588	7.668	6.729	5.970	4.421	2.465	2.458
171	6.665	6.895	6.559	6.862	6.951	5.902	5.368	4.076	3.244	2.273
172	5.941	6.120	5.672	6.014	6.064	5.134	4.638	3.520	3.143	1.966
173	5.042	5.202	4.830	4.755	4.706	4.175	3.439	2.530	2.252	1.621
174	3.642	3.916	3.559	3.087	2.900	2.542	2.012	1.669	1.547	1.516
175	2.005	2.200	2.010	1.793	1.670	1.578	1.536	1.543	1.531	1.515
176	1.515	1.515	1.520	1.525	1.552	1.547	1.542	1.531	1.542	1.515
177	1.509	1.526	1.515	1.531	1.552	1.547	1.552	1.531	1.542	1.525
178	1.520	1.536	1.525	1.542	1.552	1.547	1.547	1.536	1.542	1.536
179	1.536	1.536	1.531	1.547	1.552	1.552	1.547	1.542	1.547	1.547
180	1.542	1.542	1.542	1.542	1.542	1.542	1.542	1.542	1.542	1.542

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	189.440	189.440	189.440	189.440	189.440	189.440	189.440
1	189.540	189.640	189.440	189.530	189.570	189.570	189.600
2	189.500	189.690	189.560	189.680	189.730	189.710	189.690
3	189.470	189.730	189.620	189.810	189.870	189.820	189.730
4	189.370	189.720	189.670	189.880	189.960	189.890	189.780
5	189.270	189.680	189.690	189.930	190.010	189.940	189.780
6	189.130	189.630	189.690	189.930	190.020	189.940	189.770
7	188.940	189.520	189.640	189.910	190.020	189.910	189.700
8	188.760	189.380	189.540	189.840	189.960	189.850	189.600
9	188.510	189.230	189.430	189.760	189.890	189.750	189.460
10	188.220	189.020	189.280	189.650	189.770	189.610	189.290
11	187.940	188.790	189.110	189.480	189.620	189.460	189.110
12	187.610	188.520	188.880	189.320	189.440	189.260	188.870
13	187.240	188.240	188.620	189.100	189.210	189.040	188.620
14	186.840	187.910	188.340	188.860	188.960	188.770	188.330
15	186.450	187.550	188.050	188.580	188.690	188.480	187.990
16	186.000	187.160	187.700	188.250	188.360	188.150	187.620
17	185.510	186.730	187.300	187.880	188.010	187.790	187.240
18	184.990	186.270	186.900	187.500	187.630	187.380	186.840
19	184.460	185.800	186.460	187.090	187.190	186.940	186.370
20	183.890	185.270	185.980	186.630	186.750	186.520	185.900
21	183.270	184.740	185.480	186.120	186.250	186.010	185.390
22	182.650	184.160	184.910	185.610	185.720	185.490	184.860
23	181.970	183.550	184.340	185.060	185.190	184.930	184.320
24	181.270	182.900	183.720	184.480	184.600	184.370	183.720
25	180.530	182.200	183.100	183.870	183.980	183.750	183.100
26	179.750	181.480	182.400	183.190	183.300	183.090	182.440
27	178.940	180.730	181.640	182.480	182.600	182.400	181.760
28	178.100	179.940	180.890	181.740	181.880	181.690	181.050
29	177.210	179.110	180.090	180.950	181.090	180.930	180.290
30	176.300	178.250	179.220	180.130	180.240	180.110	179.470
31	175.340	177.340	178.340	179.250	179.380	179.270	178.650
32	174.350	176.370	177.400	178.360	178.470	178.390	177.770
33	173.310	175.390	176.450	177.400	177.540	177.470	176.870
34	172.230	174.340	175.430	176.370	176.530	176.500	175.890
35	171.120	173.270	174.390	175.300	175.510	175.470	174.900
36	169.970	172.180	173.290	174.220	174.430	174.410	173.860

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CANDELA TABULATION - (Cont.)

37	168.760	171.010	172.160	173.110	173.310	173.340	172.780
38	167.540	169.800	170.960	171.930	172.150	172.200	171.680
39	166.240	168.530	169.750	170.700	170.940	171.000	170.510
40	164.950	167.250	168.460	169.420	169.710	169.800	169.300
41	163.570	165.940	167.100	168.140	168.360	168.560	168.030
42	162.210	164.550	165.780	166.840	167.100	167.280	166.790
43	160.790	163.110	164.370	165.480	165.710	165.930	165.480
44	159.310	161.690	162.930	164.040	164.330	164.540	164.100
45	157.840	160.190	161.470	162.580	162.870	163.130	162.700
46	156.310	158.660	159.960	161.090	161.420	161.690	161.280
47	154.750	157.090	158.390	159.570	159.890	160.230	159.810
48	153.170	155.540	156.840	157.990	158.370	158.690	158.320
49	151.570	153.920	155.190	156.410	156.770	157.130	156.750
50	149.880	152.300	153.560	154.780	155.190	155.560	155.180
51	148.250	150.600	151.900	153.130	153.570	153.980	153.600
52	146.540	148.890	150.170	151.470	151.870	152.330	151.940
53	144.860	147.150	148.460	149.740	150.230	150.650	150.330
54	143.130	145.420	146.600	147.980	148.450	148.950	148.560
55	141.320	143.630	144.860	146.250	146.720	147.220	146.860
56	139.570	141.780	143.100	144.480	145.010	145.490	145.170
57	137.780	139.980	141.240	142.640	143.170	143.680	143.360
58	136.000	138.120	139.410	140.780	141.380	141.870	141.570
59	134.170	136.290	137.500	138.920	139.540	140.040	139.740
60	132.350	134.370	135.620	137.040	137.680	138.190	137.890
61	130.510	132.490	133.730	135.110	135.810	136.320	136.060
62	128.650	130.570	131.790	133.230	133.910	134.420	134.160
63	126.790	128.690	129.820	131.300	132.000	132.530	132.230
64	124.900	126.740	127.860	129.330	130.090	130.610	130.330
65	123.040	124.810	125.900	127.380	128.140	128.710	128.420
66	121.170	122.890	123.960	125.420	126.210	126.770	126.490
67	119.320	120.940	121.980	123.440	124.240	124.800	124.510
68	117.400	118.990	119.980	121.460	122.280	122.860	122.580
69	115.510	117.030	118.010	119.510	120.310	120.920	120.620
70	113.620	115.070	116.040	117.510	118.330	118.930	118.650
71	111.730	113.140	114.030	115.480	116.350	116.940	116.670
72	109.860	111.220	112.090	113.470	114.390	114.950	114.710
73	107.970	109.280	110.080	111.490	112.400	112.960	112.730
74	106.110	107.340	108.150	109.510	110.450	111.010	110.780
75	104.230	105.410	106.180	107.550	108.470	109.050	108.800
76	102.390	103.500	104.250	105.620	106.520	107.080	106.830
77	100.530	101.580	102.270	103.640	104.500	105.120	104.830
78	98.681	99.680	100.360	101.670	102.570	103.160	102.890
79	96.852	97.759	98.408	99.702	100.620	101.180	100.910
80	95.029	95.908	96.503	97.765	98.700	99.231	99.008
81	93.233	94.047	94.561	95.866	96.715	97.299	96.985
82	91.426	92.164	92.721	93.939	94.841	95.341	95.107
83	89.657	90.324	90.795	92.008	92.910	93.458	93.165
84	87.888	88.527	88.992	90.120	91.048	91.592	91.303
85	86.157	86.726	87.100	88.276	89.107	89.741	89.340
86	84.436	84.945	85.297	86.452	87.234	87.852	87.456
87	82.710	83.149	83.484	84.601	85.373	85.942	85.573
88	81.006	81.391	81.688	82.714	83.533	84.012	83.722
89	79.297	79.680	79.934	80.967	81.731	82.184	81.925
90	77.652	77.976	78.144	79.262	79.886	80.463	80.070
91	76.007	76.315	76.508	77.558	78.197	78.758	78.364
92	74.396	74.595	74.751	75.788	76.407	76.951	76.564

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CANDELA TABULATION - (Cont.)

93	72.843	73.035	73.121	74.015	74.723	75.129	74.869
94	71.285	71.413	71.487	72.403	73.030	73.496	73.197
95	69.722	69.853	69.858	70.823	71.351	71.899	71.503
96	68.213	68.316	68.352	69.222	69.792	70.281	69.943
97	66.747	66.785	66.784	67.626	68.191	68.626	68.321
98	65.295	65.318	65.279	66.045	66.632	66.997	66.762
99	63.851	63.836	63.775	64.482	65.074	65.477	65.220
100	62.466	62.417	62.346	63.048	63.596	64.011	63.715
101	61.076	60.973	60.885	61.614	62.113	62.539	62.238
102	59.680	59.620	59.499	60.148	60.700	61.009	60.803
103	58.350	58.240	58.082	58.715	59.213	59.586	59.338
104	57.035	56.914	56.761	57.368	57.849	58.234	57.968
105	55.737	55.594	55.414	56.037	56.485	56.897	56.577
106	54.477	54.320	54.124	54.685	55.152	55.506	55.287
107	53.238	53.054	52.836	53.360	53.843	54.101	53.946
108	52.010	51.831	51.591	52.116	52.528	52.857	52.657
109	50.813	50.598	50.374	50.896	51.299	51.654	51.418
110	49.649	49.407	49.156	49.668	50.060	50.414	50.189
111	48.492	48.259	48.008	48.451	48.880	49.127	48.977
112	47.356	47.107	46.840	47.256	47.679	47.911	47.792
113	46.263	46.008	45.714	46.136	46.526	46.791	46.634
114	45.181	44.883	44.610	45.011	45.368	45.671	45.514
115	44.116	43.806	43.522	43.924	44.274	44.545	44.410
116	43.082	42.751	42.456	42.852	43.171	43.420	43.311
117	42.049	41.731	41.415	41.787	42.102	42.366	42.232
118	41.033	40.719	40.413	40.775	41.052	41.354	41.177
119	40.059	39.723	39.412	39.780	40.051	40.337	40.202
120	39.099	38.760	38.427	38.776	39.039	39.306	39.185
121	38.152	37.818	37.486	37.797	38.059	38.311	38.205
122	37.216	36.882	36.539	36.856	37.107	37.364	37.253
123	36.302	35.973	35.629	35.942	36.176	36.429	36.327
124	35.415	35.080	34.742	35.027	35.251	35.498	35.413
125	34.555	34.209	33.865	34.113	34.363	34.600	34.520
126	33.695	33.354	32.994	33.237	33.465	33.708	33.638
127	32.845	32.504	32.166	32.399	32.620	32.869	32.788
128	32.007	31.689	31.335	31.571	31.773	32.020	31.952
129	31.185	30.873	30.523	30.727	30.951	31.176	31.129
130	30.395	30.088	29.717	29.927	30.134	30.365	30.317
131	29.585	29.319	28.953	29.158	29.365	29.580	29.527
132	28.790	28.551	28.196	28.382	28.586	28.825	28.748
133	28.017	27.809	27.444	27.630	27.828	28.057	28.006
134	27.248	27.084	26.719	26.894	27.070	27.305	27.249
135	26.480	26.365	25.999	26.164	26.345	26.575	26.529
136	25.663	25.667	25.295	25.471	25.636	25.866	25.820
137	24.879	24.963	24.603	24.784	24.938	25.163	25.117
138	24.099	24.292	23.958	24.103	24.267	24.481	24.445
139	23.304	23.632	23.288	23.443	23.596	23.821	23.780
140	22.492	22.995	22.656	22.799	22.954	23.156	23.138
141	21.686	22.346	22.007	22.161	22.310	22.523	22.483
142	20.875	21.707	21.395	21.539	21.687	21.890	21.871
143	20.076	21.085	20.778	20.940	21.070	21.270	21.244
144	19.275	20.474	20.199	20.334	20.480	20.680	20.659
145	18.464	19.755	19.609	19.755	19.885	20.085	20.064
146	17.646	18.869	19.041	19.182	19.317	19.506	19.495
147	16.824	17.896	18.489	18.625	18.760	18.938	18.938
148	16.008	16.793	17.932	18.084	18.208	18.397	18.386

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CANDELA TABULATION - (Cont.)

149	15.239	15.614	17.391	17.548	17.672	17.862	17.845
150	14.460	14.327	16.844	17.034	17.152	17.337	17.320
151	13.688	13.022	16.331	16.531	16.656	16.828	16.829
152	12.996	11.713	15.801	16.034	16.158	16.320	16.336
153	12.357	10.382	15.287	15.568	15.671	15.833	15.865
154	11.705	9.040	14.778	15.083	15.195	15.364	15.395
155	11.148	7.623	14.286	14.639	14.740	14.920	14.945
156	10.609	6.334	13.783	14.190	14.285	14.471	14.486
157	9.748	5.267	13.285	13.730	13.842	14.011	14.031
158	8.788	4.442	12.793	13.265	13.393	13.551	13.566
159	7.669	3.792	12.290	12.805	12.933	13.092	13.100
160	6.635	3.362	11.776	12.339	12.478	12.653	12.630
161	5.546	2.999	11.288	11.858	11.997	12.182	12.159
162	4.740	2.799	10.792	11.393	11.533	11.706	11.674
163	3.943	2.738	10.289	10.916	11.057	11.219	11.176
164	3.477	2.700	9.796	10.424	10.549	10.710	10.673
165	2.950	2.662	9.299	9.916	10.035	10.198	10.159
166	2.631	2.602	8.785	9.375	9.515	9.662	9.624
167	2.300	2.521	8.271	8.818	8.937	9.126	9.067
168	1.944	2.424	7.757	8.239	8.353	8.547	8.515
169	1.653	2.316	7.200	7.616	7.726	7.952	7.904
170	1.504	2.154	6.563	6.950	7.077	7.318	7.319
171	1.488	1.944	5.817	6.207	6.331	6.613	6.665
172	1.498	1.700	4.931	5.230	5.493	5.708	5.941
173	1.504	1.538	3.480	3.922	4.299	4.650	5.042
174	1.515	1.509	1.913	2.259	2.580	3.297	3.642
175	1.520	1.509	1.503	1.498	1.559	1.863	2.005
176	1.531	1.514	1.498	1.509	1.504	1.515	1.515
177	1.536	1.520	1.504	1.520	1.504	1.515	1.509
178	1.542	1.541	1.525	1.542	1.520	1.536	1.520
179	1.547	1.542	1.536	1.547	1.536	1.542	1.536
180	1.542	1.542	1.542	1.542	1.542	1.542	1.542

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	70.61	6.40	6.40
0-30	153.71	14.00	14.00
0-40	260.71	23.70	23.80
0-60	510.04	46.40	46.50
0-80	745.13	67.70	67.90
0-90	840.76	76.40	76.60
10-90	822.75	74.80	75.00
20-40	190.10	17.30	17.30
20-50	312.15	28.40	28.40
40-70	372.60	33.90	33.90
60-80	235.08	21.40	21.40
70-80	111.82	10.20	10.20
80-90	95.63	8.70	8.70
90-110	137.64	12.50	12.50
90-120	182.23	16.60	16.60
90-130	213.77	19.40	19.50
90-150	247.57	22.50	22.60
90-180	256.92	23.40	23.40
110-180	119.28	10.80	10.90
0-180	1097.68	99.80	100.00

Total Luminaire Efficiency = 99.80%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	18.01
10-20	52.60
20-30	83.11
30-40	106.99
40-50	122.05
50-60	127.29
60-70	123.26
70-80	111.82
80-90	95.63
90-100	77.53
100-110	60.10
110-120	44.59
120-130	31.54
130-140	21.01
140-150	12.79
150-160	6.56
160-170	2.45
170-180	0.33

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	113	113	113	113	108	108	108	108	98	98	98	89	89	89	80	80	80	76
1	99	93	88	83	94	89	84	79	80	76	72	72	69	66	65	62	60	56
2	89	79	71	64	84	75	68	62	68	62	57	61	56	52	55	51	47	44
3	80	68	59	52	76	65	57	50	59	52	46	53	47	42	47	43	39	35
4	73	60	50	43	69	57	48	41	51	44	38	46	40	35	41	36	32	29
5	67	53	43	36	63	50	42	35	46	38	32	41	35	30	37	32	27	25
6	61	47	38	31	58	45	36	30	41	33	28	37	31	26	33	28	24	21
7	57	43	33	27	53	41	32	26	37	30	24	33	27	23	30	25	21	18
8	53	39	30	24	50	37	29	23	34	26	21	31	24	20	28	22	18	16
9	49	35	27	21	46	34	26	20	31	24	19	28	22	18	25	20	16	14
10	46	32	24	19	43	31	23	18	28	22	17	26	20	16	24	19	15	13

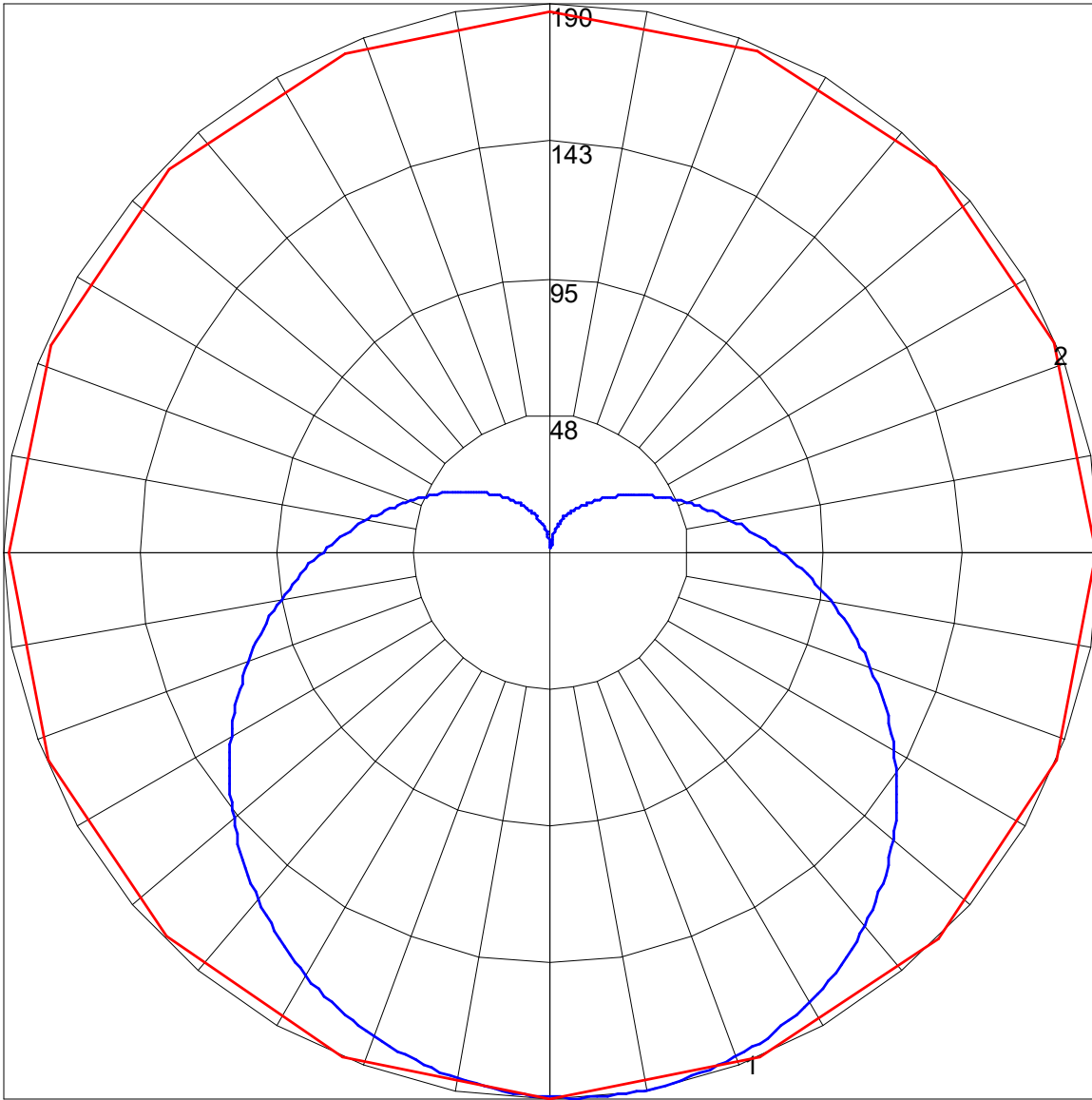
IES INDOOR REPORT
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UGR TABLE - CORRECTED

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	26.6	27.9	27.3	28.6	29.5	26.3	27.6	27.0	28.3	29.1
	3H	29.5	30.7	30.2	31.4	32.3	29.2	30.4	29.9	31.1	32.0
	4H	31.0	32.1	31.7	32.8	33.7	30.7	31.8	31.4	32.6	33.4
	6H	32.6	33.6	33.3	34.4	35.3	32.3	33.4	33.0	34.1	35.0
	8H	33.4	34.5	34.2	35.2	36.1	33.2	34.2	33.9	35.0	35.9
	12H	34.4	35.4	35.2	36.2	37.1	34.2	35.2	34.9	35.9	36.9
4H	2H	27.5	28.6	28.2	29.4	30.2	27.2	28.3	27.9	29.1	29.9
	3H	30.6	31.6	31.4	32.4	33.3	30.3	31.3	31.1	32.1	33.0
	4H	32.3	33.2	33.0	34.0	34.9	32.0	32.9	32.7	33.7	34.6
	6H	34.1	34.9	34.8	35.7	36.6	33.8	34.6	34.6	35.4	36.4
	8H	35.1	35.8	35.8	36.6	37.6	34.8	35.6	35.6	36.4	37.3
	12H	36.2	36.9	37.0	37.7	38.6	36.0	36.7	36.7	37.5	38.4
8H	4H	33.0	33.7	33.7	34.5	35.5	32.7	33.5	33.5	34.3	35.2
	6H	35.0	35.7	35.8	36.5	37.4	34.8	35.4	35.6	36.3	37.2
	8H	36.2	36.8	37.0	37.6	38.6	36.0	36.6	36.8	37.4	38.3
	12H	37.5	38.1	38.3	38.9	39.9	37.3	37.9	38.1	38.7	39.7
12H	4H	33.1	33.8	33.9	34.6	35.6	32.9	33.6	33.7	34.4	35.4
	6H	35.3	35.9	36.1	36.7	37.7	35.1	35.7	35.9	36.5	37.5
	8H	36.6	37.1	37.4	37.9	38.9	36.4	36.9	37.2	37.7	38.7

Maximum UGR = 39.9

POLAR GRAPH



Maximum Candela = 190.02 Located At Horizontal Angle = 315, Vertical Angle = 6
1 - Vertical Plane Through Horizontal Angles (315 - 135) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (6) (Through Max. Cd.)