

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HDZCSA1.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST] 1  
[TESTLAB] BEGHELLI  
[TESTDATE] 08 July 2025  
[ISSUEDATE] 2025-07-08 09:10:44  
[NEARFIELD]  
[LAMPPOSITION] 0,0  
[OTHER]  
[LUMCAT] EMERGENCY LUMINAIRE HAZARDOUS LOCATION  
[MANUFAC] BEGHELLI  
[LUMINAIRE] HDZCSA1  
[LAMPCAT] LED (ONE HEAD ONLY) - 2.5W - 369LM - 5000°K

**CHARACTERISTICS**

Lumens Per Lamp	369 (1 lamp)
Total Lamp Lumens	369
Luminaire Lumens	369
Total Luminaire Efficiency	100 %
Luminaire Efficacy Rating (LER)	148
Total Luminaire Watts	2.5
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.00
Spacing Criterion (Diagonal)	1.22
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.28 m
Luminous Width (90-270)	0.32 m
Luminous Height	0.00 m

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1297	1347	1645
55	692	780	939
65	385	480	495
75	255	283	162
85	448	448	17

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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	197.391	197.391	197.391	197.391	197.391	197.391	197.391	197.391	197.391	197.391
1	198.691	198.926	199.409	199.009	198.170	197.188	196.393	196.705	197.215	195.959
2	197.627	198.389	199.826	199.085	197.160	196.349	195.164	191.275	192.762	192.268
3	198.043	197.835	198.181	198.296	196.458	194.210	192.954	190.809	189.943	190.431
4	197.440	196.321	197.835	197.385	195.915	191.709	192.076	189.169	188.001	186.180
5	195.104	193.919	196.173	196.244	193.486	189.268	187.381	185.868	182.368	183.498
6	192.729	194.029	195.701	195.466	189.597	187.376	183.394	180.937	179.133	180.213
7	192.060	193.705	193.804	193.601	188.418	184.864	180.235	175.694	173.670	176.719
8	191.413	190.650	191.994	191.456	187.272	183.921	175.145	170.686	168.015	169.951
9	189.712	188.747	190.332	190.431	184.529	178.622	170.187	167.006	164.138	161.741
10	189.153	186.416	187.551	188.023	182.259	174.339	166.375	161.505	158.461	156.876
11	188.451	184.782	185.122	185.045	179.522	169.513	161.028	155.450	152.724	152.082
12	188.204	183.021	182.791	182.056	176.714	165.119	157.178	149.121	146.346	147.004
13	185.796	181.332	180.816	179.895	172.496	162.355	152.428	143.729	142.457	142.243
14	184.200	179.670	180.098	177.125	167.714	158.933	148.304	139.270	138.722	138.201
15	181.606	177.663	176.626	176.889	165.635	155.357	144.662	136.939	136.364	134.142
16	179.972	176.538	173.878	175.227	162.695	152.198	141.289	133.682	132.662	131.532
17	178.902	174.262	170.796	171.410	159.377	148.649	137.757	130.978	127.901	130.040
18	177.750	170.960	167.779	168.191	154.468	145.803	133.720	128.746	124.281	127.265
19	175.809	168.832	166.205	164.121	154.551	144.459	132.014	124.829	121.616	125.137
20	174.361	167.889	165.125	160.189	151.452	140.422	129.870	121.215	121.248	123.464
21	172.864	166.595	163.315	155.894	147.267	138.579	128.932	120.195	120.480	122.383
22	169.622	165.218	162.070	153.772	143.664	136.632	125.866	120.354	121.188	121.484
23	167.851	164.648	161.933	152.900	140.532	134.784	124.736	118.067	120.431	120.052
24	167.280	161.779	159.662	152.028	138.327	134.318	122.926	116.564	119.186	118.111
25	165.849	161.099	160.847	149.395	138.771	132.223	120.447	115.791	118.193	117.519
26	166.759	162.575	160.452	149.592	137.817	131.170	119.553	115.100	117.228	116.246
27	166.013	161.598	160.496	148.040	136.117	131.987	118.380	114.348	116.926	115.045
28	165.191	160.600	159.602	147.218	136.078	131.219	117.299	112.774	117.025	113.515
29	163.660	162.317	159.465	146.417	135.969	129.508	116.718	112.303	117.047	113.087
30	161.159	161.576	156.871	146.609	134.554	129.360	115.884	112.220	115.643	112.955
31	158.560	159.322	153.722	145.622	133.375	129.415	113.860	110.400	114.688	111.491
32	155.280	156.903	152.488	144.426	133.078	129.157	113.136	109.127	112.747	110.608
33	151.923	155.044	149.927	144.936	133.758	128.625	112.654	109.209	111.628	110.021
34	148.479	151.858	146.697	145.424	134.729	130.605	111.924	107.114	112.791	108.480
35	144.782	148.441	143.587	144.080	134.109	130.610	110.471	106.324	111.897	107.822
36	139.035	143.872	139.013	141.404	132.930	128.811	109.637	104.301	110.120	106.396
37	135.020	138.322	133.967	137.855	132.020	128.652	109.440	103.615	108.228	106.451
38	128.981	131.932	129.475	132.914	131.016	128.351	108.749	103.154	106.889	106.368
39	122.745	125.307	124.797	129.031	129.256	127.594	109.270	101.904	105.217	106.165
40	115.752	117.359	118.577	123.431	127.473	125.515	109.922	102.781	104.131	105.101
41	109.237	109.626	112.319	118.166	123.195	124.078	110.240	103.034	103.983	104.811
42	102.513	102.348	105.913	113.734	118.522	123.376	109.900	103.215	104.350	105.085
43	95.339	94.412	98.734	109.352	113.838	120.935	108.458	102.913	102.195	103.889
44	88.148	86.344	92.125	102.869	109.379	115.522	107.668	100.187	100.313	103.286
45	82.220	79.653	85.390	97.659	104.273	112.149	107.054	98.931	99.507	102.847
46	75.260	74.240	79.603	91.291	97.801	108.080	104.904	98.503	98.624	102.068
47	69.309	68.360	73.521	85.280	91.489	102.118	101.493	98.251	97.247	98.268
48	63.095	62.958	67.636	79.499	84.556	96.502	97.176	98.026	95.816	97.939
49	57.457	58.499	61.740	74.091	78.238	90.523	93.940	94.412	94.236	96.222
50	52.863	54.577	58.120	70.137	72.879	85.061	88.505	91.823	92.021	92.909
51	48.184	50.283	53.762	65.042	66.907	79.916	82.987	87.808	88.105	89.734
52	44.052	46.167	49.854	58.367	61.066	73.022	78.945	82.154	85.598	83.536
53	41.270	44.514	46.253	52.958	56.464	67.674	72.501	78.611	81.183	79.422

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**CANDELA TABULATION - (Cont.)**

54	37.527	40.595	43.354	49.352	53.267	61.861	66.786	74.942	74.848	73.302
55	35.562	36.949	40.100	46.638	48.300	56.733	61.422	68.919	69.792	67.411
56	33.098	34.472	36.126	42.951	43.248	50.378	56.727	63.506	63.934	61.822
57	29.542	31.358	33.841	38.946	38.300	44.849	51.808	58.608	58.800	55.268
58	27.640	28.935	31.929	35.344	37.347	40.688	45.903	51.732	53.165	50.420
59	26.296	26.646	29.073	34.250	33.893	36.347	41.017	47.143	47.242	44.682
60	24.742	23.822	26.112	30.679	30.988	33.594	36.643	41.097	41.731	38.288
61	22.336	22.323	25.475	27.454	27.970	30.253	33.705	37.253	36.089	33.491
62	20.235	20.008	22.286	26.731	23.793	26.841	30.160	32.300	30.638	29.052
63	18.270	18.117	20.289	23.945	23.681	27.400	26.542	27.882	26.587	24.149
64	16.115	15.697	18.969	21.847	22.097	25.500	23.380	25.265	23.777	20.543
65	14.591	15.215	18.198	19.511	18.756	25.633	20.431	21.893	20.303	15.976
66	13.651	13.071	15.846	19.096	17.087	24.126	19.224	19.157	17.802	13.190
67	12.112	11.652	14.421	17.457	16.809	22.477	16.736	17.780	15.564	10.636
68	10.916	11.209	14.072	15.150	15.166	22.819	14.188	16.193	13.148	10.620
69	9.958	9.310	11.764	13.448	12.802	20.368	11.286	14.097	10.058	9.925
70	9.237	8.519	10.776	12.177	12.125	20.102	10.982	13.011	8.666	8.634
71	7.947	8.036	9.986	11.575	11.083	20.299	10.234	11.830	8.568	7.892
72	7.789	6.835	9.033	10.400	8.541	17.861	9.114	9.237	7.608	8.662
73	6.844	6.290	7.707	8.984	5.709	17.753	9.478	7.228	8.979	8.514
74	6.456	5.624	7.235	8.945	4.764	17.464	8.580	6.657	8.536	7.902
75	5.905	5.008	6.556	7.499	3.759	16.392	8.170	6.453	7.931	7.370
76	5.651	4.579	5.416	7.312	2.513	14.936	7.093	7.717	7.565	6.849
77	5.319	4.032	4.943	6.437	1.798	13.378	6.442	7.026	7.297	6.284
78	5.301	3.794	4.472	5.834	1.358	11.526	4.191	6.662	6.762	5.847
79	5.197	3.362	4.055	5.331	0.928	9.134	3.638	6.345	6.166	5.508
80	4.935	3.049	3.987	4.809	0.645	7.257	3.472	6.075	5.736	5.072
81	4.621	2.776	4.070	4.136	0.498	5.882	2.073	5.629	5.184	4.815
82	4.331	2.445	3.795	3.876	0.275	4.887	0.947	5.437	4.832	4.517
83	4.022	2.154	3.539	4.109	0.193	4.134	0.308	5.097	4.021	4.196
84	3.734	1.903	3.498	4.092	0.161	3.476	0.246	4.533	3.345	3.831
85	3.497	1.678	3.498	3.672	0.136	2.941	0.185	4.163	2.665	3.606
86	3.346	1.516	3.369	3.186	0.115	2.333	0.144	4.029	2.085	3.298
87	3.188	1.383	2.769	2.796	0.091	1.670	0.082	4.209	1.852	3.066
88	3.068	1.254	2.021	2.467	0.086	0.628	0.049	4.353	2.065	2.808
89	3.043	1.109	0.914	2.242	0.086	0.122	0.045	4.111	2.563	2.634
90	3.047	1.009	0.417	1.999	0.086	0.074	0.045	3.713	2.758	2.405
91	3.022	0.918	0.274	1.820	0.086	0.054	0.054	3.625	2.158	2.218
92	2.931	0.877	0.210	1.660	0.099	0.049	0.066	3.518	0.660	1.987
93	2.930	0.823	0.184	1.508	0.095	0.049	0.078	3.124	0.153	1.761
94	3.066	0.782	0.172	1.505	0.111	0.049	0.074	3.308	0.100	1.548
95	3.175	0.778	0.163	1.609	0.120	0.049	0.078	3.461	0.095	1.297
96	3.270	0.778	0.159	1.631	0.128	0.062	0.086	4.081	0.095	1.148
97	3.296	0.803	0.155	1.366	0.144	0.070	0.082	2.830	0.096	1.069
98	3.222	0.811	0.155	1.080	0.153	0.082	0.091	0.598	0.108	1.015
99	3.147	0.815	0.155	0.924	0.169	0.090	0.103	0.147	0.120	0.923
100	3.084	0.857	0.155	0.829	0.177	0.111	0.120	0.120	0.133	0.853
101	2.972	0.881	0.155	0.821	0.189	0.119	0.132	0.115	0.141	0.740
102	2.878	0.865	0.163	0.813	0.202	0.135	0.148	0.115	0.162	0.662
103	2.794	0.848	0.204	0.817	0.214	0.152	0.165	0.115	0.174	0.583
104	2.686	0.840	0.222	0.791	0.231	0.173	0.185	0.128	0.183	0.504
105	2.415	0.806	0.251	0.762	0.243	0.181	0.198	0.144	0.195	0.487
106	2.113	0.744	0.280	0.729	0.256	0.201	0.214	0.153	0.216	0.478
107	1.876	0.642	0.284	0.716	0.268	0.214	0.231	0.181	0.228	0.569
108	1.668	0.482	0.284	0.650	0.280	0.238	0.251	0.198	0.245	0.586
109	1.347	0.408	0.293	0.550	0.305	0.251	0.268	0.210	0.262	0.599

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110	0.976	0.408	0.297	0.537	0.317	0.267	0.284	0.235	0.278	0.620
111	0.665	0.416	0.318	0.449	0.322	0.284	0.305	0.252	0.291	0.640
112	0.488	0.416	0.330	0.375	0.342	0.308	0.321	0.276	0.311	0.669
113	0.457	0.428	0.331	0.333	0.363	0.325	0.342	0.289	0.324	0.706
114	0.440	0.428	0.331	0.338	0.379	0.341	0.362	0.313	0.349	0.719
115	0.432	0.441	0.335	0.367	0.400	0.362	0.379	0.322	0.365	0.646
116	0.432	0.449	0.339	0.396	0.412	0.378	0.404	0.346	0.374	0.570
117	0.432	0.462	0.347	0.392	0.428	0.399	0.420	0.379	0.403	0.562
118	0.432	0.466	0.356	0.396	0.445	0.411	0.433	0.388	0.424	0.561
119	0.444	0.470	0.376	0.404	0.470	0.436	0.461	0.408	0.444	0.561
120	0.456	0.482	0.385	0.417	0.482	0.452	0.478	0.429	0.457	0.570
121	0.477	0.491	0.397	0.429	0.499	0.465	0.498	0.449	0.486	0.586
122	0.494	0.507	0.410	0.442	0.523	0.485	0.519	0.470	0.502	0.595
123	0.510	0.516	0.431	0.463	0.540	0.502	0.536	0.490	0.523	0.599
124	0.527	0.532	0.448	0.479	0.556	0.518	0.556	0.515	0.540	0.599
125	0.535	0.537	0.460	0.496	0.573	0.538	0.577	0.528	0.565	0.611
126	0.552	0.553	0.464	0.517	0.593	0.563	0.597	0.552	0.577	0.619
127	0.573	0.561	0.477	0.529	0.610	0.576	0.618	0.577	0.598	0.636
128	0.581	0.570	0.498	0.550	0.626	0.596	0.634	0.598	0.619	0.649
129	0.598	0.591	0.506	0.571	0.647	0.621	0.655	0.614	0.639	0.665
130	0.610	0.599	0.523	0.579	0.659	0.637	0.671	0.639	0.660	0.678
131	0.618	0.616	0.540	0.596	0.680	0.654	0.692	0.659	0.681	0.694
132	0.631	0.632	0.556	0.617	0.696	0.666	0.708	0.668	0.702	0.711
133	0.643	0.641	0.573	0.638	0.717	0.691	0.721	0.689	0.718	0.728
134	0.652	0.657	0.586	0.646	0.729	0.707	0.745	0.705	0.739	0.748
135	0.660	0.661	0.607	0.663	0.754	0.723	0.762	0.730	0.760	0.777
136	0.668	0.670	0.619	0.683	0.766	0.740	0.778	0.742	0.776	0.786
137	0.681	0.682	0.636	0.700	0.783	0.752	0.791	0.771	0.793	0.807
138	0.681	0.686	0.657	0.717	0.795	0.773	0.807	0.783	0.818	0.827
139	0.689	0.703	0.673	0.725	0.807	0.781	0.824	0.796	0.830	0.840
140	0.693	0.715	0.694	0.742	0.828	0.798	0.840	0.816	0.847	0.856
141	0.706	0.732	0.719	0.758	0.836	0.802	0.848	0.829	0.863	0.865
142	0.718	0.749	0.732	0.775	0.849	0.818	0.857	0.841	0.880	0.877
143	0.734	0.765	0.741	0.796	0.869	0.831	0.873	0.853	0.897	0.881
144	0.751	0.786	0.749	0.809	0.881	0.839	0.885	0.866	0.909	0.894
145	0.776	0.815	0.770	0.829	0.898	0.855	0.902	0.878	0.926	0.911
146	0.784	0.840	0.786	0.846	0.906	0.867	0.906	0.887	0.934	0.923
147	0.817	0.865	0.803	0.871	0.923	0.884	0.910	0.907	0.938	0.923
148	0.843	0.886	0.816	0.892	0.931	0.896	0.931	0.907	0.955	0.936
149	0.875	0.890	0.849	0.913	0.951	0.909	0.939	0.915	0.959	0.944
150	0.880	0.898	0.862	0.934	0.960	0.921	0.951	0.928	0.963	0.956
151	0.896	0.907	0.883	0.954	0.972	0.942	0.956	0.936	0.980	0.961
152	0.901	0.928	0.908	0.971	0.984	0.946	0.976	0.940	0.988	0.973
153	0.909	0.948	0.941	0.988	0.997	0.966	0.984	0.948	0.996	0.977
154	0.921	0.965	0.970	1.000	1.009	0.970	0.997	0.957	1.009	0.985
155	0.938	0.982	0.996	1.013	1.026	0.979	1.009	0.969	1.013	0.986
156	0.959	1.002	1.021	1.029	1.042	0.995	1.026	0.977	1.025	0.994
157	0.979	1.023	1.037	1.046	1.055	1.007	1.038	0.989	1.034	1.010
158	0.988	1.040	1.054	1.063	1.067	1.020	1.050	1.002	1.042	1.015
159	1.004	1.061	1.075	1.084	1.087	1.032	1.058	1.014	1.054	1.023
160	1.021	1.077	1.088	1.100	1.096	1.053	1.075	1.027	1.059	1.031
161	1.037	1.094	1.096	1.113	1.104	1.057	1.087	1.043	1.083	1.040
162	1.054	1.110	1.105	1.125	1.108	1.069	1.095	1.051	1.092	1.048
163	1.075	1.131	1.117	1.142	1.121	1.081	1.108	1.060	1.104	1.056
164	1.096	1.160	1.125	1.150	1.145	1.094	1.120	1.084	1.121	1.073
165	1.116	1.185	1.134	1.163	1.149	1.110	1.141	1.101	1.138	1.102

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**CANDELA TABULATION - (Cont.)**

166	1.137	1.198	1.146	1.171	1.162	1.131	1.149	1.113	1.150	1.126
167	1.170	1.206	1.163	1.188	1.170	1.131	1.157	1.130	1.162	1.127
168	1.187	1.206	1.167	1.196	1.178	1.147	1.170	1.134	1.171	1.139
169	1.183	1.206	1.180	1.213	1.186	1.159	1.198	1.150	1.183	1.143
170	1.183	1.210	1.188	1.217	1.199	1.168	1.211	1.159	1.191	1.156
171	1.183	1.214	1.188	1.221	1.203	1.176	1.219	1.175	1.200	1.168
172	1.183	1.218	1.201	1.229	1.207	1.184	1.219	1.175	1.208	1.181
173	1.187	1.218	1.201	1.229	1.211	1.188	1.223	1.188	1.216	1.193
174	1.187	1.218	1.209	1.242	1.211	1.197	1.227	1.192	1.220	1.210
175	1.191	1.218	1.217	1.242	1.211	1.201	1.231	1.200	1.220	1.214
176	1.208	1.218	1.222	1.246	1.211	1.205	1.244	1.208	1.220	1.227
177	1.204	1.218	1.222	1.254	1.211	1.213	1.244	1.208	1.220	1.227
178	1.204	1.218	1.226	1.267	1.211	1.217	1.244	1.212	1.220	1.227
179	1.208	1.218	1.230	1.263	1.211	1.221	1.244	1.212	1.220	1.227
180	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209	1.209

**Vert. Angles**      **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	197.391	197.391	197.391	197.391	197.391	197.391	197.391
1	196.294	195.455	197.928	196.930	196.124	196.930	198.691
2	194.890	192.241	196.283	196.266	196.716	196.925	197.627
3	192.312	190.409	194.160	194.835	194.276	195.888	198.043
4	188.160	187.074	191.500	193.606	194.939	195.054	197.440
5	184.765	183.592	190.809	192.361	196.063	195.372	195.104
6	180.948	180.290	188.111	191.747	194.166	193.195	192.729
7	176.012	178.162	185.752	189.844	195.087	191.193	192.060
8	170.088	175.452	182.050	189.356	191.308	191.467	191.413
9	165.607	170.434	179.549	185.966	187.963	190.447	189.712
10	161.269	166.178	178.398	183.515	187.837	190.431	189.153
11	155.839	162.865	177.317	182.401	185.747	189.526	188.451
12	151.638	158.050	173.330	179.878	183.888	187.162	188.204
13	148.995	154.342	169.348	177.575	182.094	186.603	185.796
14	145.117	150.251	167.313	176.774	180.723	183.937	184.200
15	142.068	146.976	164.637	173.220	177.756	181.409	181.606
16	139.150	144.656	162.690	172.600	176.588	178.387	179.972
17	137.225	142.325	159.536	171.525	176.138	177.026	178.902
18	134.965	139.430	157.112	169.622	173.220	175.727	177.750
19	132.958	136.556	154.243	167.044	170.626	173.692	175.809
20	131.159	134.268	150.048	163.200	167.143	172.332	174.361
21	128.499	132.080	148.868	162.191	163.628	170.099	172.864
22	124.813	130.226	148.517	159.075	163.101	166.491	169.622
23	122.882	127.199	146.082	157.721	160.128	164.527	167.851
24	121.138	124.100	143.148	155.417	158.955	160.276	167.280
25	120.096	121.572	139.638	152.949	157.019	162.010	165.849
26	118.945	119.652	137.049	153.081	158.077	161.088	166.759
27	118.769	119.016	135.267	152.379	156.903	159.476	166.013
28	119.296	118.023	133.106	152.691	155.664	160.414	165.191
29	119.904	116.921	133.572	152.263	155.872	159.377	163.660
30	118.758	113.981	132.958	151.117	156.179	156.629	161.159
31	117.716	112.851	131.389	147.300	154.518	152.955	158.560
32	113.465	111.151	128.685	146.927	153.635	152.236	155.280
33	111.979	110.707	125.389	146.609	154.682	149.148	151.923
34	111.453	111.211	124.517	143.181	155.741	147.366	148.479
35	110.158	112.160	123.722	141.634	152.439	144.113	144.782
36	109.999	111.908	122.784	140.082	148.364	140.049	139.035

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

37	109.001	112.818	123.809	137.389	145.506	135.300	135.020
38	109.275	112.407	122.005	134.762	140.669	131.965	128.981
39	107.871	110.767	121.275	131.214	134.603	125.707	122.745
40	107.059	109.555	119.356	126.069	127.720	119.608	115.752
41	105.765	109.346	116.158	119.466	120.990	112.549	109.237
42	106.758	109.774	114.453	114.442	113.372	105.502	102.513
43	104.948	109.028	111.507	108.222	105.507	98.926	95.339
44	104.405	107.553	108.129	103.999	98.311	92.048	88.148
45	103.983	104.619	103.511	98.476	91.615	85.313	82.220
46	101.125	101.312	99.672	92.443	84.935	78.035	75.260
47	99.118	97.703	94.335	84.951	77.278	72.150	69.309
48	96.353	93.430	89.158	79.554	71.316	65.563	63.095
49	92.509	88.653	84.134	71.596	65.706	59.497	57.457
50	88.713	82.658	78.556	64.976	59.036	54.050	52.863
51	85.269	77.942	73.027	59.563	52.204	49.432	48.184
52	80.487	71.141	67.121	54.140	48.954	45.326	44.052
53	75.671	64.027	61.087	49.114	45.284	42.150	41.270
54	69.841	59.261	55.427	44.720	40.286	38.010	37.527
55	63.248	50.930	49.874	39.126	36.780	36.495	35.562
56	57.078	42.960	43.886	35.780	33.996	33.120	33.098
57	50.954	37.195	39.050	33.911	30.767	30.253	29.542
58	44.951	28.324	35.002	30.209	28.553	28.477	27.640
59	39.519	23.098	30.326	28.073	25.728	26.173	26.296
60	33.659	20.409	28.557	26.056	23.629	23.103	24.742
61	28.874	19.426	25.023	23.891	21.072	20.414	22.336
62	25.002	17.358	22.587	21.965	19.743	18.965	20.235
63	21.839	15.477	21.869	20.109	17.267	17.952	18.270
64	18.581	13.952	20.391	19.247	16.194	16.251	16.115
65	15.390	13.674	19.629	18.817	15.351	14.776	14.591
66	13.281	13.383	18.812	19.320	13.849	13.977	13.651
67	12.015	13.203	18.826	19.811	12.191	11.955	12.112
68	10.753	13.949	18.486	20.269	11.282	11.433	10.916
69	10.034	14.786	18.510	19.811	10.258	10.241	9.958
70	10.974	15.165	18.555	19.041	8.938	9.087	9.237
71	10.253	14.723	18.151	18.338	8.016	8.456	7.947
72	9.447	14.639	17.618	17.376	7.417	7.482	7.789
73	9.442	14.755	16.948	15.858	6.517	7.264	6.844
74	9.247	14.731	16.838	14.735	6.044	6.673	6.456
75	9.749	14.296	16.076	13.778	5.531	6.082	5.905
76	9.947	14.090	15.673	12.703	4.967	5.419	5.651
77	9.606	14.233	15.225	11.829	4.450	4.969	5.319
78	9.118	14.372	14.892	11.130	3.855	4.969	5.301
79	8.824	14.360	14.222	10.538	3.510	5.069	5.197
80	8.769	14.076	13.699	10.050	3.219	4.595	4.935
81	8.672	13.628	13.292	9.687	2.823	4.033	4.621
82	8.527	13.248	12.827	9.288	2.436	3.672	4.331
83	8.544	12.886	12.441	9.043	2.124	3.346	4.022
84	8.640	12.726	12.077	9.142	1.856	3.100	3.734
85	8.736	12.776	11.627	9.843	1.681	2.902	3.497
86	8.740	12.054	11.140	10.489	1.599	2.804	3.346
87	8.379	11.173	10.632	10.309	1.460	2.734	3.188
88	7.970	10.358	10.096	10.458	1.376	2.748	3.068
89	7.627	9.498	9.497	10.822	1.334	2.956	3.043
90	7.123	8.358	8.880	11.332	1.338	2.895	3.047
91	6.752	7.714	8.056	11.098	1.375	2.887	3.022
92	6.949	7.468	7.546	10.672	1.347	2.936	2.931

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

93	6.849	7.472	7.460	10.727	1.322	2.977	2.930
94	6.785	6.877	6.709	10.220	1.306	3.022	3.066
95	6.665	7.106	6.181	9.789	1.310	2.968	3.175
96	6.543	7.278	5.407	9.562	1.359	2.898	3.270
97	6.439	7.268	5.550	9.270	1.363	2.777	3.296
98	6.388	7.074	5.332	9.075	1.351	2.638	3.222
99	6.098	6.790	4.909	8.922	1.318	2.494	3.147
100	5.620	6.493	4.601	8.669	1.293	2.400	3.084
101	5.315	6.092	4.346	8.116	1.224	2.383	2.972
102	5.096	5.638	3.995	7.397	1.019	2.354	2.878
103	4.899	5.196	3.678	6.601	0.892	2.284	2.794
104	4.740	4.699	3.369	5.820	0.754	2.202	2.686
105	4.610	4.311	2.986	5.089	0.615	2.006	2.415
106	4.445	3.926	2.607	4.462	0.573	1.830	2.113
107	4.203	3.581	2.213	3.815	0.544	1.604	1.876
108	3.956	3.317	1.843	3.055	0.519	1.349	1.668
109	3.696	3.006	1.437	2.476	0.486	1.032	1.347
110	3.483	2.714	1.035	1.956	0.457	0.812	0.976
111	3.271	2.361	0.723	1.450	0.441	0.605	0.665
112	3.071	1.969	0.607	1.141	0.441	0.474	0.488
113	2.819	1.590	0.564	0.764	0.437	0.429	0.457
114	2.428	1.159	0.548	0.554	0.432	0.425	0.440
115	1.894	0.881	0.535	0.502	0.432	0.429	0.432
116	1.489	0.763	0.527	0.498	0.432	0.433	0.432
117	1.076	0.700	0.527	0.502	0.436	0.433	0.432
118	0.857	0.667	0.527	0.502	0.445	0.450	0.432
119	0.736	0.667	0.527	0.514	0.461	0.454	0.444
120	0.711	0.658	0.527	0.527	0.465	0.470	0.456
121	0.711	0.658	0.527	0.539	0.474	0.487	0.477
122	0.728	0.658	0.548	0.559	0.494	0.499	0.494
123	0.737	0.667	0.560	0.572	0.506	0.516	0.510
124	0.753	0.687	0.572	0.592	0.523	0.528	0.527
125	0.770	0.717	0.597	0.609	0.535	0.540	0.535
126	0.782	0.741	0.614	0.629	0.560	0.561	0.552
127	0.803	0.779	0.642	0.650	0.576	0.577	0.573
128	0.816	0.808	0.667	0.671	0.589	0.590	0.581
129	0.833	0.842	0.700	0.699	0.601	0.606	0.598
130	0.849	0.858	0.725	0.720	0.622	0.623	0.610
131	0.854	0.875	0.766	0.748	0.638	0.631	0.618
132	0.883	0.888	0.783	0.765	0.651	0.648	0.631
133	0.895	0.908	0.819	0.786	0.659	0.660	0.643
134	0.916	0.925	0.836	0.814	0.675	0.672	0.652
135	0.937	0.958	0.865	0.831	0.692	0.680	0.660
136	0.958	0.983	0.898	0.851	0.704	0.693	0.668
137	0.967	1.008	0.923	0.876	0.712	0.697	0.681
138	0.979	1.033	0.955	0.892	0.725	0.713	0.681
139	0.992	1.058	0.980	0.913	0.737	0.726	0.689
140	1.000	1.071	0.996	0.929	0.757	0.734	0.693
141	1.008	1.092	1.017	0.942	0.774	0.751	0.706
142	1.017	1.108	1.034	0.950	0.790	0.767	0.718
143	1.021	1.117	1.042	0.958	0.807	0.788	0.734
144	1.021	1.117	1.046	0.975	0.824	0.800	0.751
145	1.021	1.125	1.054	0.983	0.840	0.821	0.776
146	1.021	1.125	1.063	0.991	0.865	0.846	0.784
147	1.021	1.129	1.059	0.991	0.877	0.858	0.817
148	1.021	1.129	1.059	0.991	0.902	0.874	0.843

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

149	1.021	1.129	1.059	0.991	0.910	0.887	0.875
150	1.029	1.129	1.059	0.991	0.930	0.895	0.880
151	1.025	1.129	1.059	0.991	0.947	0.911	0.896
152	1.029	1.129	1.059	0.999	0.951	0.924	0.901
153	1.042	1.129	1.059	1.008	0.968	0.944	0.909
154	1.042	1.117	1.059	1.020	0.984	0.957	0.921
155	1.054	1.092	1.059	1.036	0.988	0.973	0.938
156	1.059	1.092	1.059	1.049	1.009	0.990	0.959
157	1.067	1.092	1.059	1.061	1.017	1.010	0.979
158	1.084	1.092	1.059	1.082	1.033	1.027	0.988
159	1.092	1.092	1.059	1.102	1.038	1.039	1.004
160	1.096	1.092	1.067	1.110	1.050	1.060	1.021
161	1.105	1.096	1.083	1.118	1.050	1.068	1.037
162	1.109	1.117	1.087	1.123	1.058	1.085	1.054
163	1.113	1.129	1.100	1.123	1.062	1.101	1.075
164	1.130	1.129	1.100	1.135	1.083	1.113	1.096
165	1.134	1.133	1.100	1.135	1.095	1.130	1.116
166	1.151	1.142	1.112	1.139	1.108	1.146	1.137
167	1.159	1.142	1.112	1.151	1.120	1.155	1.170
168	1.168	1.150	1.116	1.156	1.137	1.163	1.187
169	1.184	1.150	1.124	1.168	1.145	1.175	1.183
170	1.197	1.167	1.137	1.176	1.153	1.183	1.183
171	1.205	1.187	1.145	1.189	1.165	1.192	1.183
172	1.226	1.188	1.157	1.201	1.169	1.204	1.183
173	1.239	1.204	1.166	1.213	1.182	1.208	1.187
174	1.255	1.213	1.178	1.217	1.190	1.217	1.187
175	1.264	1.225	1.190	1.238	1.207	1.229	1.191
176	1.264	1.238	1.194	1.238	1.227	1.233	1.208
177	1.264	1.242	1.194	1.238	1.231	1.233	1.204
178	1.264	1.246	1.207	1.238	1.240	1.233	1.204
179	1.264	1.250	1.207	1.238	1.240	1.233	1.208
180	1.209	1.209	1.209	1.209	1.209	1.209	1.209

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HDZCSA1.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	63.03	17.10	17.10
0-30	128.04	34.70	34.70
0-40	208.09	56.40	56.40
0-60	327.72	88.80	88.80
0-80	356.03	96.50	96.50
0-90	361.08	97.90	97.90
10-90	343.36	93.10	93.10
20-40	145.06	39.30	39.30
20-50	219.34	59.40	59.40
40-70	138.52	37.50	37.50
60-80	28.31	7.70	7.70
70-80	9.41	2.60	2.60
80-90	5.05	1.40	1.40
90-110	4.73	1.30	1.30
90-120	5.33	1.40	1.40
90-130	5.85	1.60	1.60
90-150	6.99	1.90	1.90
90-180	7.89	2.10	2.10
110-180	3.16	0.90	0.90
0-180	368.97	100.00	100.00

Total Luminaire Efficiency = 100.00%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	17.72
10-20	45.32
20-30	65.01
30-40	80.06
40-50	74.28
50-60	45.35
60-70	18.89
70-80	9.41
80-90	5.05
90-100	3.06
100-110	1.68
110-120	0.60
120-130	0.52
130-140	0.58
140-150	0.56
150-160	0.47
160-170	0.32
170-180	0.12

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HDZCSA1.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	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98
1	110	106	102	99	107	104	100	97	99	96	94	95	93	91	91	89	88	86
2	102	95	89	84	99	93	87	83	89	85	81	85	82	79	82	79	77	75
3	94	85	78	72	91	83	77	71	80	75	70	77	72	69	74	70	67	65
4	87	76	69	63	85	75	68	62	72	66	61	70	65	60	68	63	59	57
5	81	69	61	55	78	68	60	55	66	59	54	64	58	53	62	57	53	51
6	75	63	55	49	73	62	54	49	60	53	48	58	52	48	56	51	47	45
7	70	57	49	44	68	56	49	44	55	48	43	53	47	43	52	46	42	40
8	65	53	45	39	63	52	44	39	50	44	39	49	43	39	48	42	38	36
9	61	49	41	36	60	48	41	36	47	40	35	45	39	35	44	39	35	33
10	57	45	38	33	56	44	37	33	43	37	32	42	36	32	41	36	32	30

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HDZCSA1.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	8.0	9.4	8.4	9.8	10.2	10.0	11.5	10.4	11.8	12.2
	3H	8.6	9.9	9.1	10.3	10.7	10.9	12.1	11.3	12.5	12.9
	4H	8.9	10.0	9.3	10.4	10.9	11.0	12.2	11.5	12.6	13.0
	6H	9.1	10.2	9.6	10.6	11.0	11.0	12.1	11.5	12.5	13.0
	8H	9.2	10.3	9.7	10.7	11.2	11.0	12.0	11.5	12.5	12.9
	12H	9.4	10.4	9.9	10.8	11.3	10.9	11.9	11.4	12.4	12.8

UGR Viewed Endwise

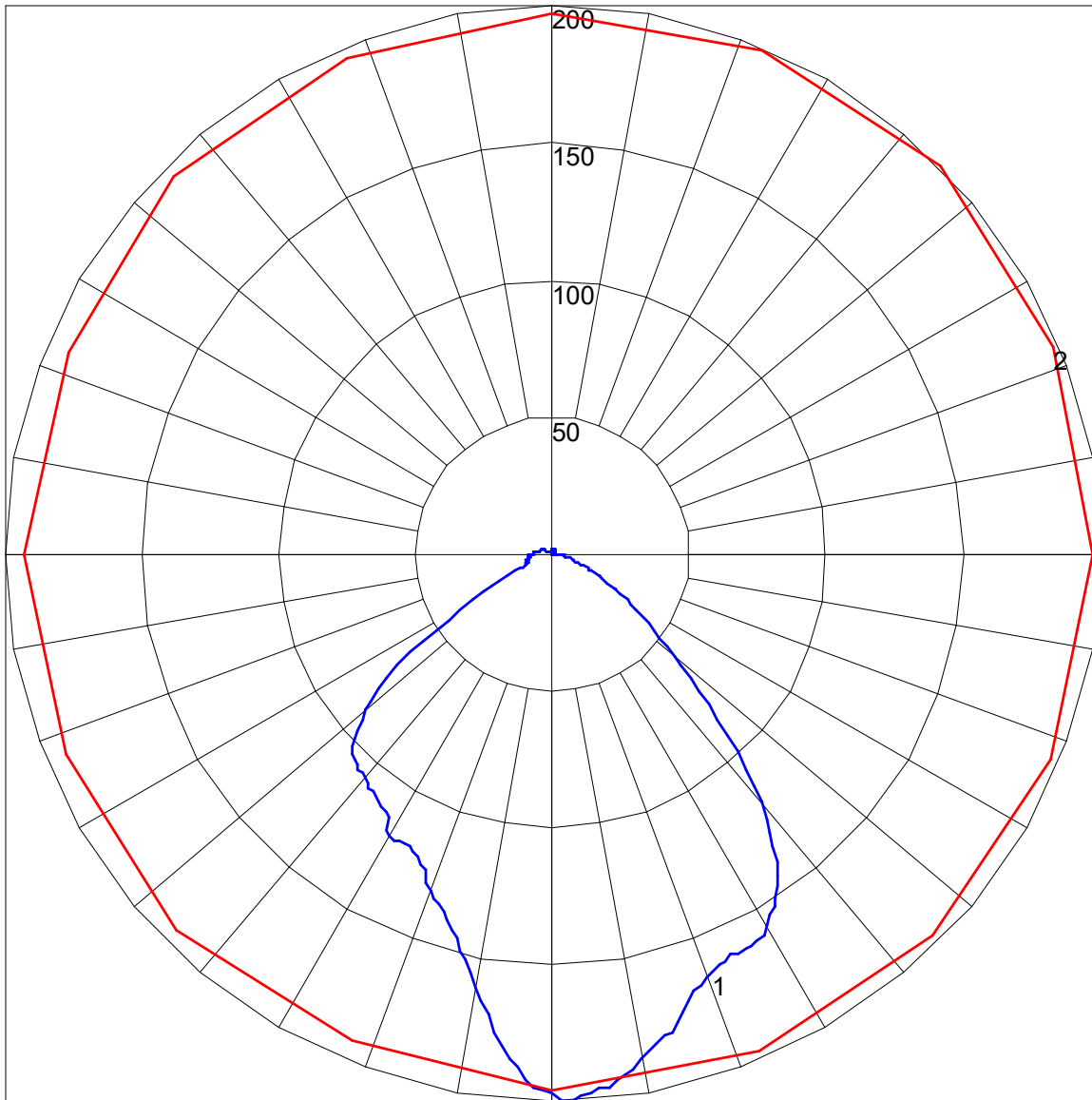
4H	2H	8.3	9.5	8.8	9.9	10.3	10.2	11.4	10.7	11.8	12.2
	3H	9.1	10.1	9.5	10.5	11.0	11.3	12.3	11.8	12.7	13.2
	4H	9.4	10.2	9.8	10.7	11.2	11.7	12.6	12.2	13.1	13.6
	6H	9.7	10.5	10.2	11.0	11.5	11.9	12.7	12.4	13.1	13.7
	8H	9.9	10.6	10.4	11.1	11.6	11.9	12.6	12.4	13.1	13.6
	12H	10.2	10.8	10.7	11.3	11.8	11.9	12.5	12.4	13.0	13.5

8H	4H	9.5	10.2	10.0	10.7	11.2	11.8	12.5	12.3	13.0	13.5
	6H	9.9	10.5	10.5	11.1	11.6	12.1	12.6	12.6	13.2	13.7
	8H	10.2	10.7	10.7	11.3	11.8	12.1	12.6	12.6	13.2	13.7
	12H	10.5	11.0	11.1	11.5	12.1	12.1	12.6	12.7	13.2	13.8

12H	4H	9.6	10.2	10.1	10.7	11.2	11.8	12.4	12.3	12.9	13.4
	6H	10.0	10.5	10.5	11.0	11.6	12.0	12.6	12.6	13.1	13.7
	8H	10.3	10.8	10.8	11.3	11.9	12.1	12.6	12.7	13.1	13.7

Maximum UGR = 13.8

POLAR GRAPH



Maximum Candela = 199.826 Located At Horizontal Angle = 45, Vertical Angle = 2  
# 1 - Vertical Plane Through Horizontal Angles (45 - 225) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2) (Through Max. Cd.)