



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-225-850-35-4-FW.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200417-2
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/04/17
 [ISSUE DATE] 2020/06/29
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-225-HL0-35-4-FW
 [LUMINAIRE]KEL-LED-225-HL0-35-4-FW
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Power Supply
 [OPTICS]Frosted white lens

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3426
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	98
Total Luminaire Watts	34.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.26
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.38
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.19 m
Luminous Width (90-270)	0.05 m
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	18029	18129	18146
55	17362	17461	17462
65	16585	16645	16578
75	15714	15678	15440
85	15531	15126	14404

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CANDELA TABULATION

	<u>0</u>	<u>10</u>	<u>20</u>	<u>30</u>	<u>40</u>	<u>50</u>	<u>60</u>	<u>70</u>	<u>80</u>	<u>90</u>
0	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844
5	1183.272	1182.089	1181.665	1181.638	1181.722	1182.038	1182.356	1182.562	1182.733	1182.834
10	1165.779	1164.748	1164.560	1164.641	1164.924	1165.341	1165.775	1165.989	1166.194	1166.242
15	1137.307	1136.536	1136.309	1136.598	1136.990	1137.542	1138.048	1138.324	1138.493	1138.531
20	1098.561	1097.996	1098.167	1098.690	1098.890	1099.282	1099.839	1100.113	1100.205	1100.149
25	1049.138	1048.688	1049.145	1050.031	1051.029	1051.819	1051.951	1052.087	1052.191	1051.927
30	990.886	990.555	991.208	992.344	993.560	994.863	995.395	995.080	995.126	994.712
35	924.825	924.637	925.462	926.712	928.166	929.491	930.568	930.119	930.032	929.523
40	852.208	852.078	852.967	854.360	855.821	857.223	858.253	858.381	857.794	857.268
45	774.020	773.953	774.890	776.244	777.674	778.999	780.005	780.580	779.724	779.051
50	691.099	691.063	691.959	693.264	694.555	695.720	696.630	697.110	696.345	695.636
55	604.642	604.641	605.418	606.569	607.621	608.545	609.257	609.569	608.964	608.108
60	515.733	515.697	516.354	517.246	518.011	518.645	519.067	519.110	518.734	517.567
65	425.564	425.545	425.991	426.598	426.995	427.227	427.307	427.038	426.635	425.376
70	335.334	335.259	335.537	335.800	335.849	335.724	335.349	334.745	334.095	332.930
75	246.929	246.824	246.872	246.886	246.613	246.132	245.436	244.517	243.680	242.634
80	161.678	161.557	161.475	161.256	160.784	160.099	159.219	158.206	157.263	156.418
85	82.188	82.056	81.761	81.254	80.488	79.593	78.697	77.751	76.902	76.221
90	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460

Vert. Angles **Horizontal Angles**

	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>	<u>190</u>
0	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844
5	1182.841	1184.422	1184.286	1184.063	1183.704	1183.416	1182.869	1181.936	1180.849	1179.743
10	1166.181	1167.615	1167.195	1166.767	1166.172	1165.632	1164.847	1163.764	1161.817	1161.245
15	1138.328	1139.568	1138.986	1138.306	1137.535	1136.789	1135.861	1134.648	1132.499	1131.832
20	1099.959	1100.983	1100.192	1099.352	1098.634	1097.710	1096.412	1094.899	1092.628	1091.940
25	1051.661	1052.605	1051.718	1051.016	1049.628	1048.253	1046.687	1045.037	1042.653	1041.973
30	994.349	995.244	994.517	993.130	991.437	989.848	988.083	986.304	983.897	983.308
35	929.125	929.951	928.957	927.244	925.325	923.517	921.687	919.838	917.519	916.995
40	856.827	857.757	856.253	854.411	852.399	850.478	848.580	846.766	844.561	844.166
45	778.586	779.408	777.653	775.763	773.706	771.721	769.848	768.098	766.103	765.768
50	695.132	695.662	693.960	692.062	690.034	688.125	686.373	684.758	682.937	682.827
55	607.731	607.869	606.307	604.522	602.646	600.868	599.283	597.822	596.273	596.286
60	517.312	517.197	515.785	514.265	512.626	511.107	509.715	508.502	507.239	507.339
65	425.056	424.911	423.774	422.567	421.327	420.085	418.972	418.046	417.043	417.321
70	332.566	332.481	331.674	330.848	330.009	329.121	328.359	327.713	327.010	327.392
75	242.230	242.167	241.694	241.230	240.755	240.304	239.877	239.522	239.089	239.533
80	155.920	155.788	155.534	155.359	155.231	155.097	154.954	154.833	154.665	155.155
85	75.597	75.342	75.235	75.254	75.354	75.490	75.625	75.732	75.785	76.278
90	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460

Vert. Angles **Horizontal Angles**

	<u>200</u>	<u>210</u>	<u>220</u>	<u>230</u>	<u>240</u>	<u>250</u>	<u>260</u>	<u>270</u>	<u>280</u>	<u>290</u>
0	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844
5	1179.550	1178.397	1178.463	1178.533	1178.676	1178.793	1178.899	1179.021	1178.413	1177.346
10	1160.920	1159.747	1159.846	1160.099	1160.368	1160.622	1160.924	1161.135	1160.459	1159.784
15	1131.499	1130.248	1130.534	1130.855	1131.405	1131.799	1132.258	1132.550	1131.864	1131.500
20	1091.759	1090.922	1091.250	1091.502	1092.024	1092.772	1093.479	1093.888	1093.313	1093.018
25	1041.963	1041.479	1042.231	1043.197	1043.819	1044.539	1045.335	1045.879	1045.380	1045.033
30	983.438	983.227	984.497	985.790	986.918	991.131	999.253	1001.980	1000.477	1003.252
35	917.373	917.456	919.056	922.145	936.542	937.656	938.920	939.799	939.406	939.344

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CANDELA TABULATION - (Cont.)

40	844.723	845.246	848.221	862.119	864.321	866.865	873.995	877.333	874.520	871.856
45	766.554	767.505	781.002	784.081	795.902	790.777	790.200	791.100	790.904	791.294
50	683.816	684.911	693.314	706.042	704.271	716.539	719.618	720.557	720.449	720.531
55	597.509	598.809	603.194	606.821	627.836	631.399	636.795	636.015	637.335	633.580
60	508.671	510.139	514.436	515.817	531.680	542.210	553.612	560.859	558.424	550.893
65	418.715	420.268	423.921	425.693	430.904	454.066	463.049	465.292	465.014	460.198
70	328.849	330.599	332.985	337.888	340.221	353.185	373.143	384.896	375.214	358.909
75	241.036	242.877	245.773	249.990	251.538	256.251	286.505	295.393	289.514	261.925
80	156.623	158.613	161.386	164.562	168.333	169.951	184.786	209.433	186.162	174.530
85	77.611	79.546	81.981	85.219	87.764	91.954	95.087	121.908	96.580	94.530
90	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460	12.460

Vert. Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844	1186.844
5	1178.955	1178.614	1178.435	1178.496	1178.307	1178.278	1177.910
10	1161.354	1161.097	1161.003	1161.070	1160.984	1160.988	1160.697
15	1133.099	1132.793	1132.703	1132.732	1132.671	1132.832	1132.573
20	1094.638	1094.411	1094.562	1094.652	1094.417	1094.342	1094.078
25	1057.488	1047.717	1046.630	1046.091	1045.390	1045.195	1044.944
30	1004.683	1005.066	990.864	988.508	987.605	987.261	987.028
35	929.349	937.107	938.424	923.242	922.204	921.588	921.343
40	869.325	856.774	863.990	859.469	850.061	849.257	848.972
45	791.793	790.069	777.469	783.332	772.404	771.449	771.095
50	719.880	707.849	693.906	696.054	689.982	688.881	688.488
55	631.685	619.551	607.953	606.185	603.976	602.751	602.365
60	540.320	523.999	519.227	517.072	515.440	514.215	513.781
65	440.092	430.941	429.193	427.254	425.642	424.364	423.959
70	343.892	340.848	339.409	337.826	335.761	334.447	334.020
75	259.133	254.514	251.465	250.680	247.682	246.312	245.932
80	171.217	169.424	166.774	165.078	162.711	161.351	160.989
85	91.661	89.137	87.150	84.969	83.323	82.077	81.791
90	12.460	12.460	12.460	12.460	12.460	12.460	12.460

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	432.29	N.A.	12.60
0-30	915.24	N.A.	26.70
0-40	1495.68	N.A.	43.70
0-60	2642.71	N.A.	77.10
0-80	3333.02	N.A.	97.30
0-90	3426.03	N.A.	100.00
10-90	3313.88	N.A.	96.70
20-40	1063.39	N.A.	31.00
20-50	1664.48	N.A.	48.60
40-70	1572.96	N.A.	45.90
60-80	690.31	N.A.	20.10
70-80	264.39	N.A.	7.70
80-90	93.00	N.A.	2.70
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3426.03	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	112.15
10-20	320.14
20-30	482.95
30-40	580.44
40-50	601.09
50-60	545.94
60-70	425.92
70-80	264.39
80-90	93.00
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

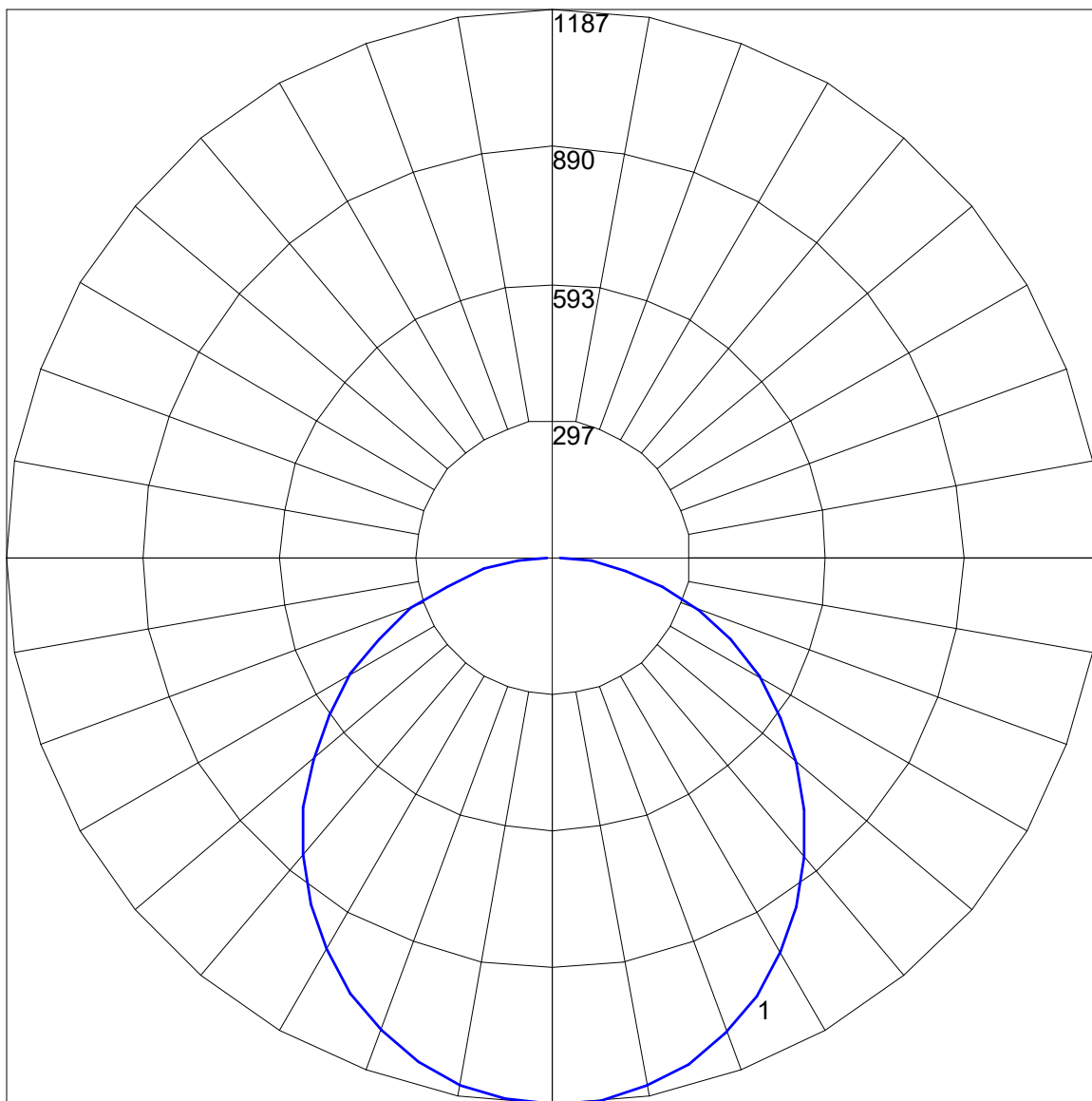
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	105	101	97	93	97	93	90	93	90	87	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	68
3	89	79	70	64	87	77	69	63	74	67	62	71	65	61	69	64	60	57
4	82	70	61	54	79	68	60	53	66	58	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42
6	69	56	47	40	67	55	46	40	53	45	40	51	45	39	50	44	39	37
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29
9	56	42	34	28	54	42	34	28	41	33	28	40	33	28	38	32	28	26
10	52	39	31	26	51	39	31	26	38	30	26	37	30	25	36	30	25	24

POLAR GRAPH



Maximum Candela = 1186.844 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)