



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-225-800-35-4-HE.IES

DESCRIPTION INFORMATION (From Photometric File)

[TEST]20200422-6
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/04/22
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-225-HLO-35-4-HE
 [LUMINAIRE]KEL-LED-225-HLO-35-4-HE
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Power Supply
 [OTHER]HLO
 [_OPTICS]DF90C
 [_TRIM]N/A
 [_WATTAGE]
 [_VOLTAGE]34
 [_CURRENT]763mA
 [_WIDTH]47
 [_LENGTH]2
 [_HEIGHT]0

CHARACTERISTICS

Lumens Per Lamp	1 (1 lamp)
Total Lamp Lumens	1
Luminaire Lumens	3253
Total Luminaire Efficiency	325321 %
Luminaire Efficacy Rating (LER)	3253
Total Luminaire Watts	1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Point
Luminous Length (0-180)	0.00 m
Luminous Width (90-270)	0.00 m
Luminous Height	0.00 m

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LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	0
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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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	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374
5	1264.536	1263.976	1263.995	1264.249	1264.688	1265.257	1265.908	1266.633	1267.235	1267.747
10	1241.437	1241.010	1241.289	1241.949	1242.905	1244.172	1245.557	1246.900	1248.155	1249.032
15	1205.510	1205.230	1205.784	1206.913	1208.502	1210.455	1212.700	1214.852	1216.753	1218.138
20	1157.503	1157.406	1158.273	1160.065	1162.412	1165.111	1168.053	1171.065	1173.674	1175.588
25	1098.332	1098.332	1099.662	1101.996	1105.028	1108.723	1112.408	1116.126	1119.352	1121.749
30	1028.755	1028.924	1030.653	1033.719	1037.593	1041.931	1046.505	1050.636	1054.517	1057.448
35	949.840	950.162	952.206	955.825	960.525	965.725	970.908	975.702	980.036	983.327
40	863.688	864.077	866.274	869.992	874.852	880.809	886.749	892.110	896.842	900.541
45	770.259	770.732	773.188	777.190	782.162	788.024	794.562	800.565	805.609	809.653
50	667.894	668.648	671.707	676.534	682.180	688.419	694.924	701.555	707.006	711.396
55	555.555	556.465	560.404	566.898	574.045	581.662	588.905	595.753	601.792	606.466
60	437.607	438.484	442.464	449.499	458.317	467.566	476.552	484.297	490.906	495.959
65	320.263	321.001	324.494	330.411	338.966	349.175	359.155	368.350	375.800	381.154
70	212.946	213.440	215.937	220.356	226.557	234.933	243.733	252.389	259.948	265.124
75	126.362	126.611	127.994	130.372	133.680	138.248	143.439	148.405	152.996	156.313
80	64.137	64.220	64.718	65.540	66.650	68.199	69.992	71.140	71.965	72.638
85	23.996	23.987	24.004	24.008	23.994	23.999	24.004	23.595	23.110	22.915
90	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209

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	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374
5	1268.110	1268.407	1268.589	1268.612	1268.622	1268.469	1268.256	1267.923	1267.549	1267.131
10	1249.741	1250.131	1250.231	1250.275	1250.047	1249.580	1249.041	1248.416	1247.888	1247.436
15	1219.067	1219.486	1219.499	1219.210	1218.556	1217.600	1216.494	1215.522	1214.781	1214.250
20	1176.627	1177.127	1176.863	1176.053	1174.832	1173.254	1171.620	1170.192	1169.220	1168.665
25	1123.106	1123.412	1122.968	1121.547	1119.753	1117.500	1115.261	1113.384	1112.212	1111.668
30	1059.068	1059.282	1058.500	1056.655	1054.152	1051.395	1048.731	1046.350	1045.030	1044.471
35	985.156	985.423	984.501	982.159	979.249	975.992	972.823	970.227	968.754	968.274
40	902.476	902.777	901.686	899.124	895.864	892.231	888.599	885.686	884.096	883.651
45	811.835	812.196	810.967	808.080	804.372	800.062	795.849	792.479	790.631	790.375
50	713.757	713.987	712.550	709.052	704.311	698.865	693.533	689.050	686.631	686.691
55	608.892	608.807	606.546	601.689	595.413	588.445	580.887	575.622	573.128	573.494
60	498.200	497.197	493.237	486.651	478.761	469.168	461.322	455.851	453.418	453.916
65	382.797	380.159	374.388	366.580	356.182	346.479	338.709	333.444	331.146	331.798
70	265.928	262.281	256.309	247.562	238.298	230.195	224.077	220.188	218.530	219.059
75	157.049	155.087	151.125	145.064	139.424	135.067	132.141	130.305	129.499	129.723
80	73.783	74.425	72.889	70.879	69.191	67.841	66.924	66.367	66.128	66.168
85	23.713	24.464	24.722	24.858	24.940	25.071	25.169	25.205	25.228	25.237
90	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209

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	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374
5	1266.845	1266.712	1266.723	1266.715	1266.812	1266.732	1266.588	1266.376	1266.094	1265.774
10	1247.101	1247.175	1247.334	1247.521	1247.583	1247.573	1247.392	1246.981	1246.358	1245.657
15	1214.125	1214.444	1214.946	1215.565	1216.075	1216.232	1215.964	1215.387	1214.563	1213.087
20	1168.706	1169.442	1170.414	1171.447	1172.459	1173.022	1172.795	1172.193	1170.993	1168.980
25	1111.911	1113.198	1114.525	1116.234	1117.715	1118.512	1118.606	1117.772	1116.181	1113.792
30	1045.156	1046.609	1048.503	1050.699	1052.646	1053.741	1053.921	1053.106	1051.052	1048.012
35	969.192	970.834	973.371	975.740	977.937	979.446	979.718	978.789	976.335	972.854

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CANDELA TABULATION - (Cont.)

40	884.673	886.902	889.700	892.385	894.990	896.663	896.970	895.833	893.176	889.290
45	791.832	794.707	798.000	801.374	804.125	805.952	806.330	804.993	802.091	797.842
50	689.245	693.330	697.841	702.210	705.804	707.898	708.465	706.985	703.661	699.028
55	576.818	582.429	588.817	594.873	600.008	603.130	604.067	602.623	598.899	593.800
60	457.718	464.197	472.218	480.236	487.041	491.987	494.130	492.897	488.957	483.067
65	335.675	342.420	351.076	360.778	369.199	375.728	379.500	379.247	375.029	368.399
70	221.980	227.424	234.807	243.661	252.599	259.418	264.076	264.851	260.789	253.899
75	131.161	133.829	137.743	143.152	149.177	154.125	156.906	157.288	154.532	149.999
80	66.638	67.533	68.814	70.472	72.518	74.481	74.546	73.547	72.663	71.752
85	25.271	25.261	25.177	25.119	25.065	24.854	24.349	23.353	23.244	23.578
90	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209	4.209

**Vert.
Angles**

Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374	1273.374
5	1265.619	1265.162	1264.816	1264.640	1264.438	1264.216	1264.028
10	1244.875	1244.026	1243.326	1242.548	1241.861	1241.481	1241.197
15	1211.966	1210.478	1209.032	1207.816	1206.613	1205.946	1205.478
20	1166.941	1164.800	1162.784	1160.925	1159.242	1158.137	1157.702
25	1111.037	1108.299	1105.376	1102.849	1100.919	1099.532	1098.702
30	1044.963	1041.355	1037.746	1034.570	1031.925	1030.116	1029.206
35	969.368	965.064	960.667	956.646	953.324	951.300	950.296
40	885.205	880.086	874.907	870.472	867.140	865.089	864.123
45	793.087	787.373	782.017	777.487	773.947	771.618	770.557
50	693.603	687.714	682.135	676.791	672.470	669.486	668.049
55	587.855	581.399	574.509	567.697	561.478	557.320	555.572
60	476.409	468.329	459.707	450.823	443.482	439.197	437.567
65	360.362	351.002	341.229	331.935	325.209	321.605	320.234
70	245.813	237.368	228.667	221.671	216.700	213.887	212.913
75	145.108	140.053	135.023	131.137	128.380	126.829	126.323
80	70.617	68.893	67.115	65.742	64.743	64.223	64.082
85	23.979	23.997	23.935	23.899	23.869	23.887	23.929
90	4.209	4.209	4.209	4.209	4.209	4.209	4.209

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	462.45	46245.00	14.20
0-30	974.85	97485.00	30.00
0-40	1581.46	158146.00	48.60
0-60	2715.36	271536.00	83.50
0-80	3220.01	322001.00	99.00
0-90	3253.21	325321.00	100.00
10-90	3132.96	313296.00	96.30
20-40	1119.01	111901.00	34.40
20-50	1730.67	173067.00	53.20
40-70	1483.4	148340.00	45.60
60-80	504.65	50465.00	15.50
70-80	155.15	15515.00	4.80
80-90	33.19	3319.00	1.00
90-110	0.00	0.00	0.00
90-120	0.00	0.00	0.00
90-130	0.00	0.00	0.00
90-150	0.00	0.00	0.00
90-180	0.00	0.00	0.00
110-180	0.00	0.00	0.00
0-180	3253.21	325321.00	100.00

Total Luminaire Efficiency = 325321.00%

ZONAL LUMEN SUMMARY

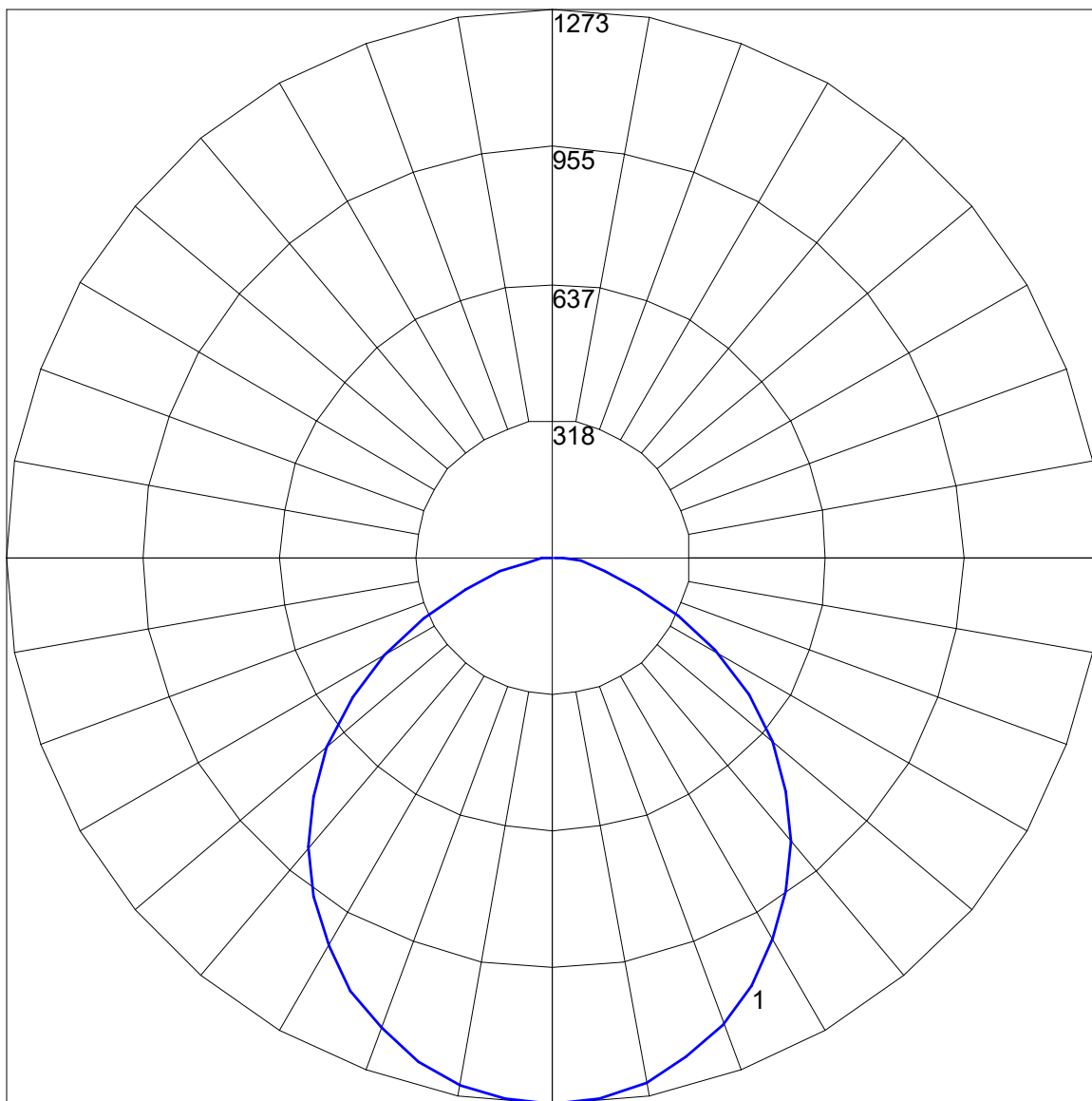
Zone	Lumens
0-10	120.25
10-20	342.20
20-30	512.40
30-40	606.61
40-50	611.66
50-60	522.24
60-70	349.50
70-80	155.15
80-90	33.19
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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	50	30	10	0
0	387	287	287	287	287	378	278	278	278	280	361	467	467	467	346	346	346	086	331	930	960
1	356	242	239	239	239	347	242	239	239	2615	321	176	502	770	308	560	296	530	296	296	284
2	325	200	200	200	200	317	204	200	200	113	283	287	243	108	272	254	247	378	262	250	247
3	298	265	240	232	205	290	260	267	208	085	250	234	204	255	242	224	213	560	233	219	266
4	273	226	208	187	170	266	236	226	186	409	223	255	187	864	216	167	143	390	209	192	177
5	252	210	183	162	143	245	208	187	140	543	201	187	159	789	194	174	153	074	188	170	156
6	233	195	162	142	122	226	187	161	124	689	182	158	143	440	176	155	139	214	171	152	138
7	216	178	145	124	105	210	166	142	125	590	165	142	124	675	161	152	124	775	156	137	122
8	201	158	132	112	90	196	156	130	112	353	151	128	117	666	147	126	116	989	144	124	117
9	188	145	119	101	79	183	142	118	101	333	139	109	100	805	136	115	100	284	133	114	107
10	176	134	109	92	61	172	132	108	92	253	129	107	99	640	126	105	91	231	123	104	96

POLAR GRAPH



Maximum Candela = 1273.374 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)