



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-225-1100-35-4-BW-ID.IES

### DESCRIPTION INFORMATION (From Photometric File)

[TEST]20200422-3  
 [TESTLAB]Intense Lighting Lab  
 [TESTDATE]2020/04/22  
 [ISSUE DATE] 2020/06/29  
 [MANUFAC]Birchwood  
 [LUMCAT]KEL-LED-225-HLO-35-4-BWID  
 [LUMINAIRE]KEL-LED-225-HLO-35-4-BWID  
 [LAMPCAT]59637  
 [LAMP]3500K 80CRI  
 [BALLASTCAT]Power Supply  
 [OPTICS]DF60C/DFBW30:70  
 [CONVERT] Luminaire test position and photometric web converted from original test data

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4432
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	127
Total Luminaire Watts	35
Ballast Factor	1.00
CIE Type	Indirect
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Point
Luminous Length (0-180)	0.00 m
Luminous Width (90-270)	0.00 m
Luminous Height	0.00 m

### 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

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : KEL-LED-225-1100-35-4-BW-ID.IES**

**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>
<b>90</b>	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878
<b>95</b>	37.504	37.410	37.203	36.510	35.042	33.055	31.108	29.493	28.049	27.046
<b>100</b>	98.358	98.669	99.371	99.536	97.944	94.439	90.994	88.496	85.755	84.125
<b>105</b>	193.641	194.873	197.567	199.682	198.678	193.393	186.502	180.517	176.813	174.906
<b>110</b>	330.761	333.355	339.157	344.412	342.940	330.671	312.750	296.314	286.777	283.050
<b>115</b>	513.018	516.750	524.178	529.098	521.474	493.706	452.378	416.185	394.280	387.221
<b>120</b>	725.720	729.485	735.592	735.633	715.482	663.972	592.385	529.246	491.677	481.164
<b>125</b>	953.824	956.495	958.500	949.103	911.152	832.649	727.238	634.090	579.822	565.679
<b>130</b>	1186.603	1187.018	1182.152	1159.238	1100.707	994.118	855.513	733.476	662.061	644.329
<b>135</b>	1410.224	1407.187	1392.975	1354.850	1274.863	1142.152	976.169	829.595	742.227	721.071
<b>140</b>	1607.776	1600.799	1576.390	1522.253	1422.380	1269.965	1085.938	922.769	823.502	799.787
<b>145</b>	1762.454	1751.173	1716.202	1647.150	1532.316	1369.409	1180.144	1012.001	907.547	882.968
<b>150</b>	1855.448	1840.250	1796.724	1717.329	1595.619	1433.793	1253.060	1094.021	994.002	971.024
<b>155</b>	1874.661	1857.188	1809.082	1726.867	1608.662	1460.965	1302.640	1166.108	1080.070	1061.345
<b>160</b>	1817.370	1799.899	1753.392	1677.637	1574.940	1453.893	1330.085	1226.345	1161.693	1148.872
<b>165</b>	1691.894	1677.409	1639.930	1581.506	1506.065	1421.889	1340.060	1273.701	1233.631	1227.076
<b>170</b>	1528.639	1520.040	1498.059	1465.126	1424.400	1380.862	1340.236	1308.785	1290.626	1288.989
<b>175</b>	1388.859	1386.646	1380.542	1371.326	1360.380	1348.870	1338.763	1331.430	1327.863	1328.681
<b>180</b>	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000

**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>
<b>90</b>	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878
<b>95</b>	27.654	29.142	31.176	33.020	34.800	35.856	36.189	36.181	36.182	35.996
<b>100</b>	84.446	86.521	90.355	94.292	97.650	98.902	98.446	97.607	97.415	97.560
<b>105</b>	174.216	176.751	183.446	191.388	196.969	197.989	195.949	193.628	193.127	193.904
<b>110</b>	284.321	292.901	308.720	326.138	336.193	337.386	333.469	329.492	328.604	329.970
<b>115</b>	394.110	416.575	452.402	489.327	510.524	514.170	509.462	504.304	503.136	504.770
<b>120</b>	495.471	536.449	600.407	664.579	704.532	715.965	713.004	707.974	706.805	708.208
<b>125</b>	588.652	650.879	745.802	841.290	903.696	929.294	932.571	929.679	929.014	929.421
<b>130</b>	676.633	761.560	886.922	1012.325	1099.119	1141.325	1155.587	1157.998	1158.442	1156.625
<b>135</b>	762.916	869.023	1021.738	1172.586	1281.507	1341.492	1367.645	1376.696	1379.143	1373.860
<b>140</b>	850.019	972.447	1144.211	1314.165	1441.186	1517.793	1556.781	1573.414	1577.948	1568.279
<b>145</b>	938.716	1068.950	1247.555	1425.707	1565.564	1656.504	1707.950	1732.480	1739.335	1724.382
<b>150</b>	1027.367	1154.258	1325.340	1498.578	1641.813	1742.316	1804.552	1836.632	1845.723	1824.850
<b>155</b>	1112.645	1224.455	1374.026	1529.561	1664.288	1765.736	1833.020	1869.811	1880.499	1855.028
<b>160</b>	1190.019	1277.435	1394.664	1519.910	1634.597	1726.119	1790.364	1827.136	1837.775	1810.631
<b>165</b>	1255.331	1313.518	1392.344	1479.037	1562.059	1632.083	1683.725	1714.477	1723.561	1699.068
<b>170</b>	1304.384	1334.570	1375.628	1421.865	1467.905	1508.081	1539.016	1557.839	1563.743	1546.014
<b>175</b>	1333.995	1343.271	1355.539	1369.312	1383.219	1395.680	1405.578	1411.842	1414.457	1404.265
<b>180</b>	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000

**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>
<b>90</b>	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878	5.878
<b>95</b>	35.950	35.461	34.204	32.422	30.618	28.822	27.747	27.683	29.118	30.571
<b>100</b>	98.364	98.422	96.501	92.814	88.862	85.691	84.455	84.959	87.114	89.829
<b>105</b>	196.260	197.542	195.046	188.365	180.165	174.767	173.763	175.332	177.700	182.272
<b>110</b>	334.181	336.738	332.650	319.674	301.073	287.139	281.071	281.809	287.309	299.053
<b>115</b>	510.146	512.560	503.669	475.677	436.833	404.162	386.664	384.365	395.810	422.224
<b>120</b>	713.116	712.219	692.094	642.208	574.489	516.352	483.922	477.485	495.823	540.980
<b>125</b>	931.203	921.767	884.593	809.295	709.146	622.716	573.018	561.751	587.164	652.919

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : KEL-LED-225-1100-35-4-BW-ID.IES**

**CANDELA TABULATION - (Cont.)**

<b>130</b>	1151.550	1129.202	1072.952	971.228	840.299	724.893	656.896	640.342	673.212	759.693
<b>135</b>	1360.510	1324.516	1248.736	1123.388	966.166	824.617	738.984	716.992	757.243	862.948
<b>140</b>	1545.860	1495.573	1402.435	1258.679	1082.239	922.164	822.317	795.375	841.715	961.853
<b>145</b>	1692.451	1629.097	1521.919	1366.454	1183.115	1015.873	908.508	878.191	927.696	1054.569
<b>150</b>	1784.321	1710.223	1595.180	1442.156	1263.618	1102.366	997.216	966.420	1013.871	1135.226
<b>155</b>	1809.461	1731.324	1617.845	1474.394	1317.144	1177.403	1084.243	1055.899	1097.388	1202.129
<b>160</b>	1765.758	1692.397	1592.245	1472.641	1348.575	1238.486	1165.927	1142.969	1173.938	1253.767
<b>165</b>	1661.641	1603.681	1528.572	1443.253	1357.978	1286.406	1238.045	1222.097	1241.415	1292.241
<b>170</b>	1523.365	1488.977	1445.966	1399.459	1354.459	1317.456	1292.866	1284.186	1292.654	1316.547
<b>175</b>	1397.062	1386.354	1373.179	1359.276	1345.898	1334.893	1327.512	1324.636	1326.177	1331.947
<b>180</b>	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000

**Vert. Horizontal Angles**

	<u><b>300</b></u>	<u><b>310</b></u>	<u><b>320</b></u>	<u><b>330</b></u>	<u><b>340</b></u>	<u><b>350</b></u>	<u><b>360</b></u>
<b>90</b>	5.878	5.878	5.878	5.878	5.878	5.878	5.878
<b>95</b>	32.375	34.340	36.195	37.368	37.697	37.645	37.504
<b>100</b>	92.532	96.176	99.246	100.160	99.553	98.773	98.358
<b>105</b>	188.573	195.576	199.740	199.639	196.939	194.564	193.641
<b>110</b>	317.058	334.327	343.925	343.107	337.083	332.380	330.761
<b>115</b>	461.522	501.018	523.627	527.296	520.889	514.915	513.018
<b>120</b>	608.823	677.522	720.552	734.319	731.675	727.186	725.720
<b>125</b>	753.026	853.808	921.240	949.886	955.068	954.298	953.824
<b>130</b>	890.914	1023.962	1117.136	1164.026	1180.168	1185.372	1186.603
<b>135</b>	1020.304	1180.490	1298.318	1364.409	1393.710	1406.893	1410.224
<b>140</b>	1136.440	1315.122	1452.703	1537.329	1580.731	1602.190	1607.776
<b>145</b>	1233.351	1418.716	1567.911	1667.497	1724.775	1754.543	1762.454
<b>150</b>	1305.768	1483.490	1633.888	1742.006	1809.364	1845.831	1855.448
<b>155</b>	1349.476	1506.865	1646.454	1753.524	1824.406	1864.202	1874.661
<b>160</b>	1366.946	1492.165	1609.023	1702.626	1769.349	1807.237	1817.370
<b>165</b>	1365.665	1449.202	1530.986	1601.203	1653.573	1683.792	1691.894
<b>170</b>	1352.366	1394.676	1438.009	1476.525	1506.444	1523.863	1528.639
<b>175</b>	1340.999	1352.021	1363.500	1374.048	1382.514	1387.323	1388.859
<b>180</b>	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000	1340.000

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : KEL-LED-225-1100-35-4-BW-ID.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	0.00	N.A.	0.00
0-30	0.00	N.A.	0.00
0-40	0.00	N.A.	0.00
0-60	0.00	N.A.	0.00
0-80	0.00	N.A.	0.00
0-90	0.00	N.A.	0.00
10-90	0.00	N.A.	0.00
20-40	0.00	N.A.	0.00
20-50	0.00	N.A.	0.00
40-70	0.00	N.A.	0.00
60-80	0.00	N.A.	0.00
70-80	0.00	N.A.	0.00
80-90	0.00	N.A.	0.00
90-110	253.68	N.A.	5.70
90-120	724.49	N.A.	16.30
90-130	1446.62	N.A.	32.60
90-150	3185.48	N.A.	71.90
90-180	4432.16	N.A.	100.00
110-180	4178.48	N.A.	94.30
0-180	4432.16	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	0.00
10-20	0.00
20-30	0.00
30-40	0.00
40-50	0.00
50-60	0.00
60-70	0.00
70-80	0.00
80-90	0.00
90-100	45.21
100-110	208.47
110-120	470.81
120-130	722.13
130-140	871.76
140-150	867.10
150-160	696.33
160-170	418.51
170-180	131.85

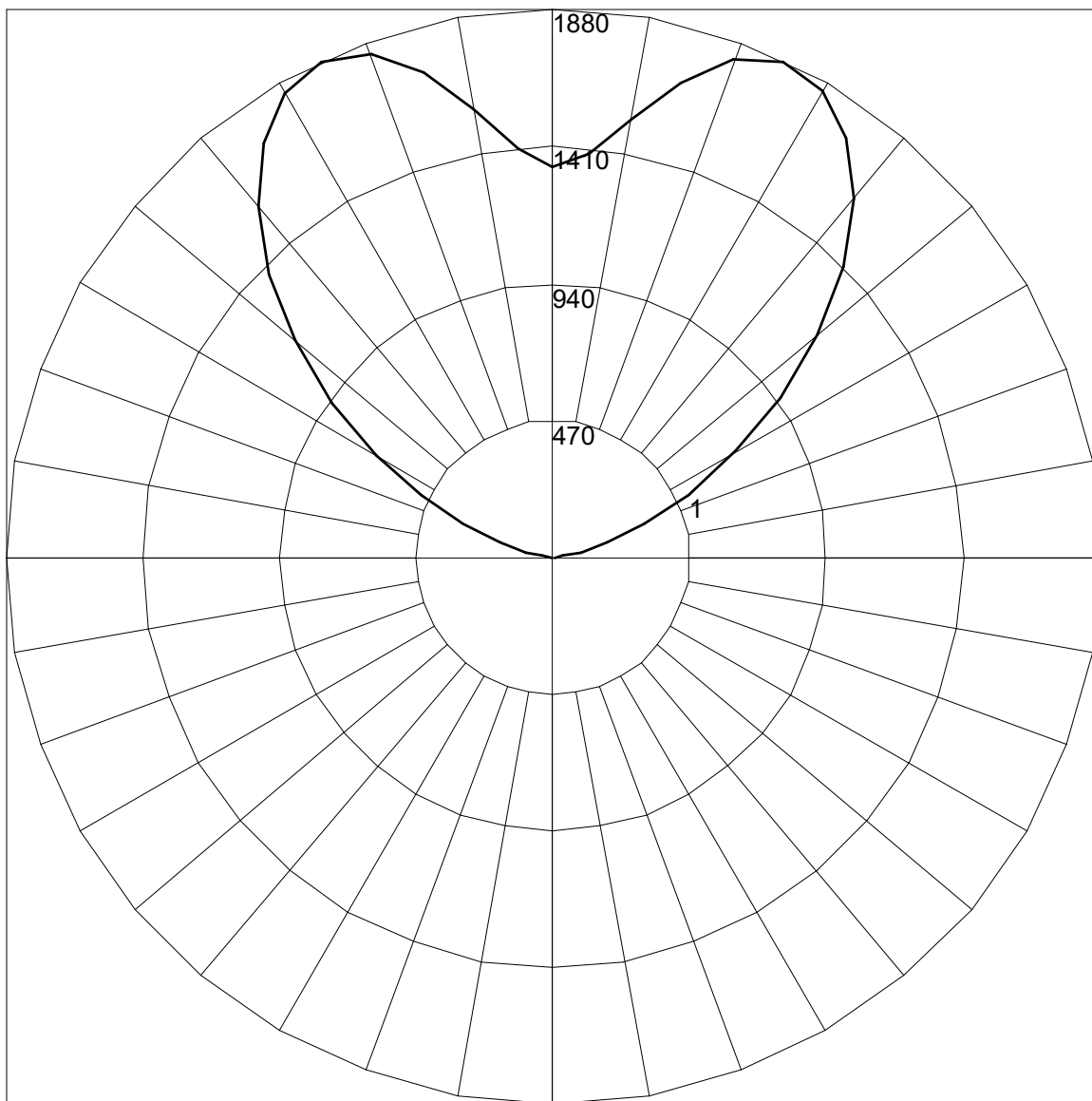
**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : KEL-LED-225-1100-35-4-BW-ID.IES**

**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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	56	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	28	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

POLAR GRAPH



Maximum Candela = 1880.499 Located At Horizontal Angle = 180, Vertical Angle = 155  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180)