



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-225-1200-35-4-AS-ID.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200422-4
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/04/22
 [ISSUEDATE] 2020/06/29
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-225-HLO-35-4-ASID
 [LUMINAIRE]KEL-LED-225-HLO-35-4-ASID
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Power Supply
 [OPTICS]DF60C/DFLB20
 [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	4825
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	138
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	Rectangular
Luminous Length (0-180)	1.19 ft
Luminous Width (90-270)	0.05 ft
Luminous Height	0.00 ft

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>
90	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645
95	31.857	31.676	31.295	30.670	29.389	26.506	25.258	24.456	21.473	19.760
100	83.308	83.156	82.944	82.544	80.551	72.535	70.531	71.552	60.420	53.424
105	163.664	163.921	164.638	165.075	163.076	147.101	142.802	149.041	123.407	100.310
110	278.249	279.512	282.159	283.884	281.605	252.405	239.668	253.377	212.862	152.122
115	427.127	429.793	434.187	433.085	425.780	380.170	350.740	368.356	327.687	219.002
120	597.421	602.176	606.560	595.304	578.550	518.888	473.878	485.761	459.323	331.082
125	781.249	787.684	786.984	757.757	729.726	662.960	617.860	611.039	596.074	494.628
130	977.459	981.303	963.155	913.365	873.509	807.489	786.978	747.424	731.458	684.209
135	1167.917	1160.266	1113.005	1053.377	999.638	947.823	967.931	897.108	862.157	882.669
140	1307.641	1282.006	1220.524	1167.194	1101.438	1082.431	1139.942	1057.781	994.198	1089.873
145	1357.546	1335.619	1293.543	1240.229	1188.725	1215.277	1293.943	1221.043	1150.087	1312.932
150	1371.440	1357.777	1323.350	1285.715	1286.505	1355.158	1431.649	1380.285	1349.493	1544.101
155	1361.626	1357.829	1352.609	1364.268	1414.826	1497.974	1551.588	1527.851	1570.229	1764.857
160	1427.806	1436.731	1459.777	1502.606	1561.506	1614.113	1638.171	1671.141	1781.479	1955.427
165	1588.652	1598.229	1618.560	1645.340	1672.796	1703.713	1758.818	1848.071	1967.573	2105.289
170	1736.498	1743.157	1758.527	1784.488	1823.384	1876.644	1945.977	2027.742	2117.461	2210.397
175	1986.599	1993.167	2007.235	2028.669	2057.208	2091.912	2133.632	2177.929	2224.122	2270.321
180	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000

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>
90	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645
95	20.660	25.336	30.878	31.917	30.689	29.488	28.807	28.329	28.260	28.395
100	55.694	74.272	91.006	90.775	83.745	78.244	75.115	73.137	72.808	73.820
105	105.904	159.818	191.363	186.539	168.830	156.046	148.549	143.861	143.065	145.711
110	167.778	288.790	337.867	325.822	294.046	270.762	256.083	247.215	245.639	250.697
115	253.613	451.735	525.987	508.721	464.606	427.625	402.009	387.170	384.369	392.819
120	394.582	639.722	745.639	731.184	678.676	625.954	586.174	563.820	559.274	572.212
125	608.358	855.201	993.017	990.054	929.027	861.179	807.227	776.562	769.972	788.194
130	849.634	1102.159	1263.610	1272.926	1205.788	1127.645	1062.562	1024.044	1015.647	1038.839
135	1093.787	1368.256	1541.858	1561.352	1495.618	1414.521	1345.293	1302.025	1292.186	1318.460
140	1342.498	1625.594	1801.880	1836.222	1782.964	1706.659	1640.966	1599.661	1589.818	1614.191
145	1587.643	1855.948	2022.467	2073.518	2047.526	1989.000	1932.299	1896.113	1887.230	1906.639
150	1811.993	2048.373	2198.106	2259.642	2262.012	2233.188	2197.503	2172.001	2165.342	2177.323
155	2000.086	2197.638	2328.297	2395.481	2418.107	2415.712	2403.012	2391.623	2388.849	2390.556
160	2144.528	2302.857	2414.347	2482.484	2518.390	2533.431	2537.419	2537.236	2537.201	2529.641
165	2244.510	2364.850	2456.403	2520.255	2561.618	2586.620	2600.514	2606.960	2609.165	2594.661
170	2301.269	2383.231	2451.515	2504.769	2543.830	2571.113	2588.508	2597.948	2601.191	2581.994
175	2315.125	2357.409	2395.268	2427.526	2453.406	2473.317	2487.209	2495.170	2498.376	2477.362
180	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000

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>
90	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645	5.645
95	28.819	29.532	30.831	31.502	29.369	22.968	20.188	20.150	22.770	25.277
100	75.811	79.114	85.210	90.647	86.813	64.360	53.574	54.203	64.626	72.302
105	150.591	158.581	172.753	187.744	183.463	134.844	100.000	102.955	134.612	148.413
110	260.424	276.013	301.177	329.152	324.129	244.304	151.258	160.812	233.566	248.702
115	409.792	437.132	474.899	512.970	501.681	391.049	214.696	241.161	351.435	357.646
120	598.627	641.162	692.248	733.940	708.560	566.980	325.644	365.114	476.873	469.360
125	824.804	882.140	946.134	988.876	942.304	770.720	518.539	523.412	605.625	592.441

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CANDELA TABULATION - (Cont.)

130	1084.511	1152.166	1224.503	1266.340	1201.507	1005.274	754.043	687.310	735.520	737.264
135	1368.637	1438.466	1512.084	1547.729	1473.239	1260.178	996.999	849.564	863.460	908.458
140	1661.096	1726.541	1793.108	1814.048	1729.663	1514.347	1239.018	1026.477	992.792	1086.880
145	1947.291	2001.682	2046.445	2042.864	1950.129	1750.124	1480.847	1232.503	1137.770	1254.212
150	2204.643	2235.159	2249.049	2221.811	2128.835	1953.577	1709.425	1460.958	1326.975	1407.328
155	2400.976	2406.810	2396.245	2353.337	2265.096	2113.174	1907.633	1683.167	1527.077	1533.678
160	2526.878	2516.271	2489.774	2438.514	2355.291	2230.038	2063.794	1880.193	1726.782	1645.964
165	2583.808	2563.676	2529.532	2477.268	2402.862	2305.304	2179.886	2041.962	1912.829	1804.964
170	2567.962	2545.064	2511.457	2465.565	2406.405	2332.818	2248.189	2157.418	2067.736	1982.365
175	2465.988	2448.827	2425.184	2395.626	2360.013	2319.524	2276.190	2230.705	2185.373	2140.920
180	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000

Vert. Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
90	5.645	5.645	5.645	5.645	5.645	5.645	5.645
95	25.883	27.982	30.471	31.339	31.800	31.904	31.857
100	70.442	75.933	82.390	83.191	83.519	83.436	83.308
105	141.457	153.599	165.511	165.421	165.047	164.078	163.664
110	238.852	263.562	284.748	283.622	282.109	279.177	278.249
115	355.405	395.978	430.920	433.491	433.985	428.770	427.127
120	487.252	537.923	586.723	599.005	607.526	600.304	597.421
125	636.046	681.962	741.525	766.865	792.026	785.527	781.249
130	798.981	822.333	889.499	926.776	976.212	981.065	977.459
135	965.136	953.018	1020.323	1067.847	1134.348	1165.979	1167.917
140	1123.701	1074.474	1122.170	1181.265	1239.935	1294.046	1307.641
145	1272.100	1193.604	1196.994	1255.168	1304.779	1343.551	1357.546
150	1412.745	1322.347	1275.323	1290.244	1330.414	1361.289	1371.440
155	1536.789	1465.202	1387.518	1350.731	1347.227	1356.734	1361.626
160	1625.199	1592.295	1533.914	1478.816	1443.500	1429.551	1427.806
165	1728.692	1683.050	1653.861	1627.169	1602.920	1590.879	1588.652
170	1907.182	1845.389	1798.307	1765.008	1743.640	1737.067	1736.498
175	2099.810	2062.284	2031.197	2006.636	1989.114	1986.305	1986.599
180	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000	2273.000

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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	205.54	N.A.	4.30
90-120	606.81	N.A.	12.60
90-130	1285.82	N.A.	26.70
90-150	3165.06	N.A.	65.60
90-180	4824.73	N.A.	100.00
110-180	4619.2	N.A.	95.70
0-180	4824.73	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	37.13
100-110	168.41
110-120	401.27
120-130	679.01
130-140	904.84
140-150	974.40
150-160	858.32
160-170	589.36
170-180	212.00

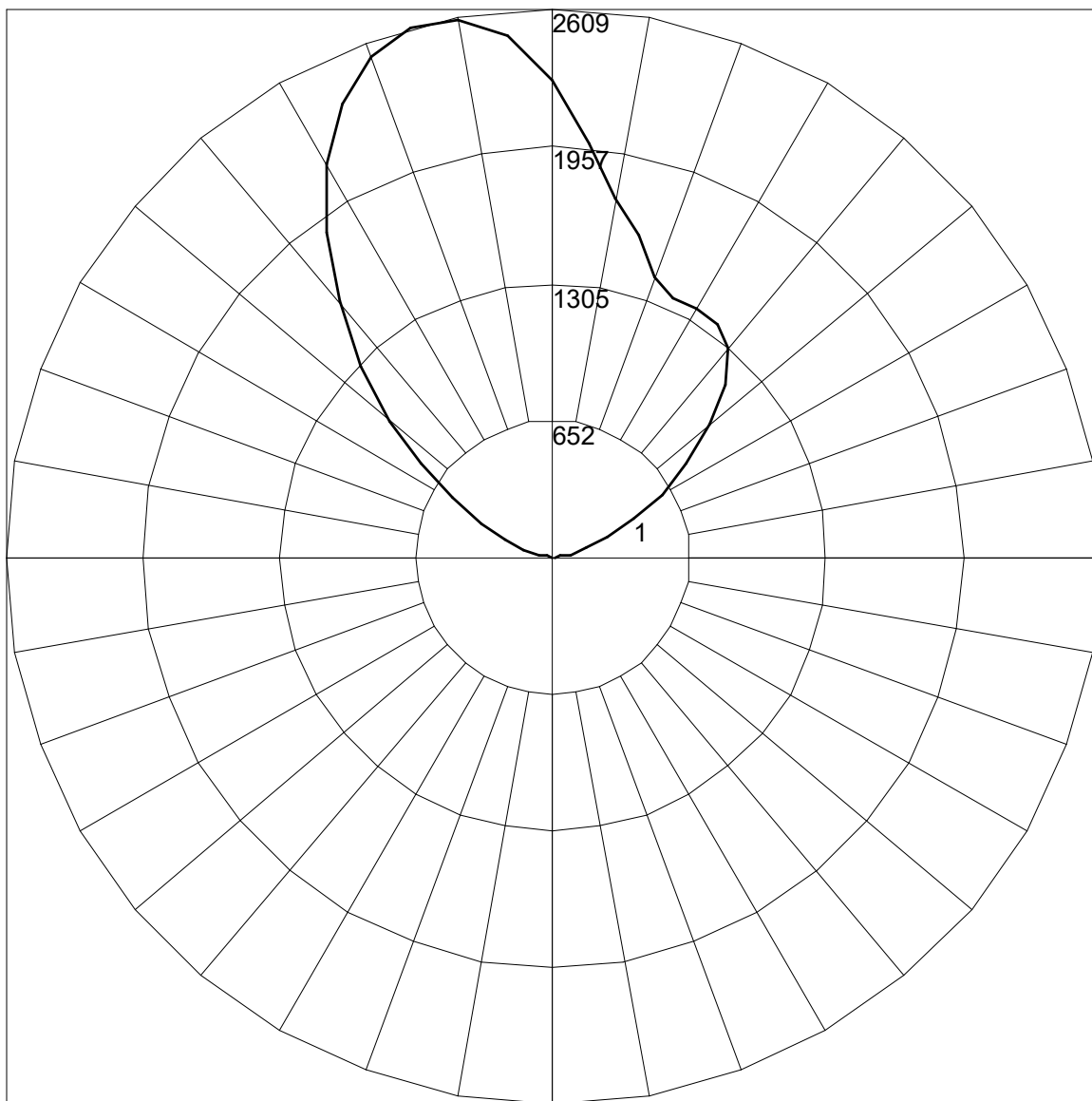
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	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 = 2609.165 Located At Horizontal Angle = 180, Vertical Angle = 165
1 - Vertical Plane Through Horizontal Angles (0 - 180)