



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-325-1070-35-4-E70-ID.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200616-4
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/06/16
 [ISSUEDATE] 2020/06/26
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-325-HLO-35-4-HE-ID
 [LUMINAIRE]
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Osram 50W
 [OTHER]DF60C
 [OPTICS]HE-ID
 [TRIM]N/A
 [WATTAGE]35
 [VOLTAGE]120
 [CONVERT] Photometric web tilted 180 degrees

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4306
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	123
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 m
Luminous Width (90-270)	0.08 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>
90	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571
95	22.256	22.083	22.174	22.305	22.446	22.688	22.756	22.894	22.888	22.759
100	65.031	64.929	65.492	66.358	67.837	69.748	71.540	73.745	75.472	75.933
105	131.867	131.853	133.062	135.618	139.655	144.564	149.524	155.028	159.192	160.534
110	218.322	218.395	220.710	225.160	231.609	238.027	244.972	251.817	256.585	258.156
115	312.503	312.970	316.179	321.914	328.541	335.914	344.712	353.276	359.707	361.980
120	409.148	409.979	414.386	420.601	428.801	439.810	452.804	466.115	476.908	480.739
125	515.984	516.815	521.640	530.555	543.917	561.759	582.927	605.065	623.868	630.647
130	642.652	644.241	652.752	667.347	689.646	718.226	750.999	787.217	817.634	828.351
135	804.643	807.276	820.676	845.377	876.516	917.433	966.769	1017.620	1060.295	1074.923
140	1008.169	1011.950	1030.898	1063.536	1104.311	1159.560	1218.557	1280.158	1330.440	1346.830
145	1247.418	1252.165	1275.098	1310.590	1362.357	1416.396	1480.844	1548.787	1594.260	1607.791
150	1504.182	1508.634	1531.373	1565.745	1611.503	1670.351	1722.461	1776.121	1814.601	1825.066
155	1747.882	1751.130	1770.503	1798.427	1835.339	1878.437	1929.484	1970.531	1994.080	1999.599
160	1954.527	1956.651	1971.228	1991.629	2018.209	2048.818	2079.811	2104.966	2121.016	2124.098
165	2117.953	2119.082	2128.990	2141.849	2157.999	2175.610	2192.824	2206.190	2214.266	2214.834
170	2236.018	2236.345	2241.821	2247.203	2254.312	2261.990	2268.705	2273.931	2276.625	2276.092
175	2304.422	2304.320	2306.787	2307.909	2309.294	2310.901	2312.187	2312.723	2313.030	2312.129
180	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000

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	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571
95	22.797	22.715	22.473	22.231	21.886	21.539	21.333	21.244	21.277	21.605
100	74.738	72.481	69.951	67.692	65.600	63.700	62.403	61.702	61.611	62.660
105	158.265	153.169	147.012	141.042	135.813	131.223	127.899	126.048	125.623	127.740
110	255.893	250.088	242.538	234.523	226.953	220.263	214.852	211.665	210.813	214.278
115	358.807	351.387	342.144	332.611	324.102	316.940	311.229	307.523	306.550	311.310
120	475.031	463.104	449.194	435.327	423.414	414.100	407.606	403.751	402.708	408.927
125	620.407	599.795	576.741	554.618	535.979	521.798	512.085	506.603	505.303	513.900
130	811.604	778.500	740.129	707.831	678.222	654.478	639.178	630.408	628.300	641.414
135	1051.267	1004.377	951.024	900.087	860.498	827.932	801.254	787.737	784.340	804.055
140	1319.448	1262.786	1198.079	1137.241	1079.166	1039.997	1003.776	985.040	980.008	1007.726
145	1583.091	1529.976	1457.875	1390.067	1334.702	1278.551	1241.266	1218.491	1212.629	1246.452
150	1803.213	1757.015	1699.266	1644.819	1581.926	1532.482	1495.161	1472.474	1466.115	1503.093
155	1984.544	1953.285	1907.235	1853.997	1807.863	1767.786	1737.039	1718.265	1713.553	1748.021
160	2112.736	2089.795	2059.681	2026.366	1993.420	1964.778	1942.643	1929.189	1926.149	1956.009
165	2207.745	2194.227	2176.130	2155.935	2135.789	2117.854	2103.905	2095.911	2094.559	2118.364
170	2272.296	2265.452	2256.699	2247.026	2236.881	2228.161	2221.256	2217.634	2217.494	2234.492
175	2310.642	2308.262	2305.569	2302.448	2299.408	2296.927	2294.946	2293.984	2294.847	2303.049
180	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000

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	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571	4.571
95	21.980	22.509	23.216	23.968	24.617	25.210	25.550	25.701	26.082	26.176
100	63.862	65.745	68.288	71.046	74.015	77.211	80.055	81.620	81.323	79.469
105	130.270	134.391	139.965	146.243	153.362	160.674	166.764	169.434	167.938	163.278
110	218.398	224.891	232.788	241.684	251.006	259.735	266.383	268.880	266.977	261.469
115	316.069	322.855	330.975	341.051	351.906	362.421	370.759	374.047	371.023	363.406
120	413.777	421.344	431.918	445.448	460.699	476.460	489.620	495.149	489.792	476.972
125	520.545	531.510	547.177	567.738	591.854	617.319	639.631	649.336	639.840	617.746

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CANDELA TABULATION - (Cont.)

130	651.443	668.257	692.199	724.056	761.727	801.782	837.454	852.792	837.639	802.000
135	819.174	843.928	878.710	924.671	978.413	1035.071	1084.202	1105.161	1084.182	1034.602
140	1027.855	1061.199	1106.430	1165.233	1232.172	1299.749	1356.208	1378.942	1355.299	1298.029
145	1270.476	1308.774	1360.249	1424.618	1495.125	1562.539	1615.866	1636.219	1613.853	1558.729
150	1526.922	1564.357	1613.137	1672.808	1735.622	1792.876	1835.760	1851.020	1833.062	1787.991
155	1767.618	1798.483	1838.005	1885.590	1934.621	1976.741	2006.909	2016.764	2004.174	1971.770
160	1970.324	1992.672	2020.407	2053.969	2087.172	2114.866	2133.273	2139.100	2131.145	2109.826
165	2127.769	2141.394	2158.200	2178.701	2197.806	2212.540	2222.826	2225.612	2220.858	2208.853
170	2239.328	2245.870	2253.598	2262.852	2271.380	2277.853	2281.981	2283.046	2280.672	2274.991
175	2304.839	2306.377	2308.194	2310.827	2312.264	2313.759	2314.686	2314.887	2314.001	2312.268
180	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000

Vert. Horizontal Angles
Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
90	4.571	4.571	4.571	4.571	4.571	4.571	4.571
95	25.915	25.562	25.053	24.376	23.580	22.770	22.256
100	76.890	74.519	72.253	69.833	67.859	66.117	65.031
105	156.924	150.985	145.729	140.306	136.233	133.469	131.867
110	253.585	245.334	238.981	230.799	224.448	220.335	218.322
115	353.308	342.942	336.128	327.668	320.116	314.975	312.503
120	461.487	446.290	436.606	426.542	418.388	412.090	409.148
125	592.224	567.843	552.730	537.086	525.903	519.138	515.984
130	761.571	723.676	699.707	675.060	657.804	647.133	642.652
135	977.325	923.435	889.097	852.936	826.715	810.911	804.643
140	1229.494	1162.756	1119.717	1072.527	1037.868	1016.531	1008.169
145	1489.533	1419.877	1375.062	1322.411	1282.546	1257.435	1247.418
150	1728.025	1665.881	1626.861	1577.585	1539.216	1514.371	1504.182
155	1926.422	1877.077	1849.084	1808.750	1777.291	1756.597	1747.882
160	2079.573	2045.721	2029.111	1999.766	1976.967	1961.368	1954.527
165	2191.571	2177.371	2165.714	2147.716	2132.742	2122.539	2117.953
170	2266.934	2261.976	2258.880	2250.521	2243.404	2238.686	2236.018
175	2309.963	2309.605	2310.639	2308.624	2306.688	2305.206	2304.422
180	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000	2324.000

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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	190.46	N.A.	4.40
90-120	524.83	N.A.	12.20
90-130	1036.2	N.A.	24.10
90-150	2626.66	N.A.	61.00
90-180	4306.34	N.A.	100.00
110-180	4115.88	N.A.	95.60
0-180	4306.34	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	33.02
100-110	157.45
110-120	334.37
120-130	511.37
130-140	714.08
140-150	876.38
150-160	853.07
160-170	608.05
170-180	218.56

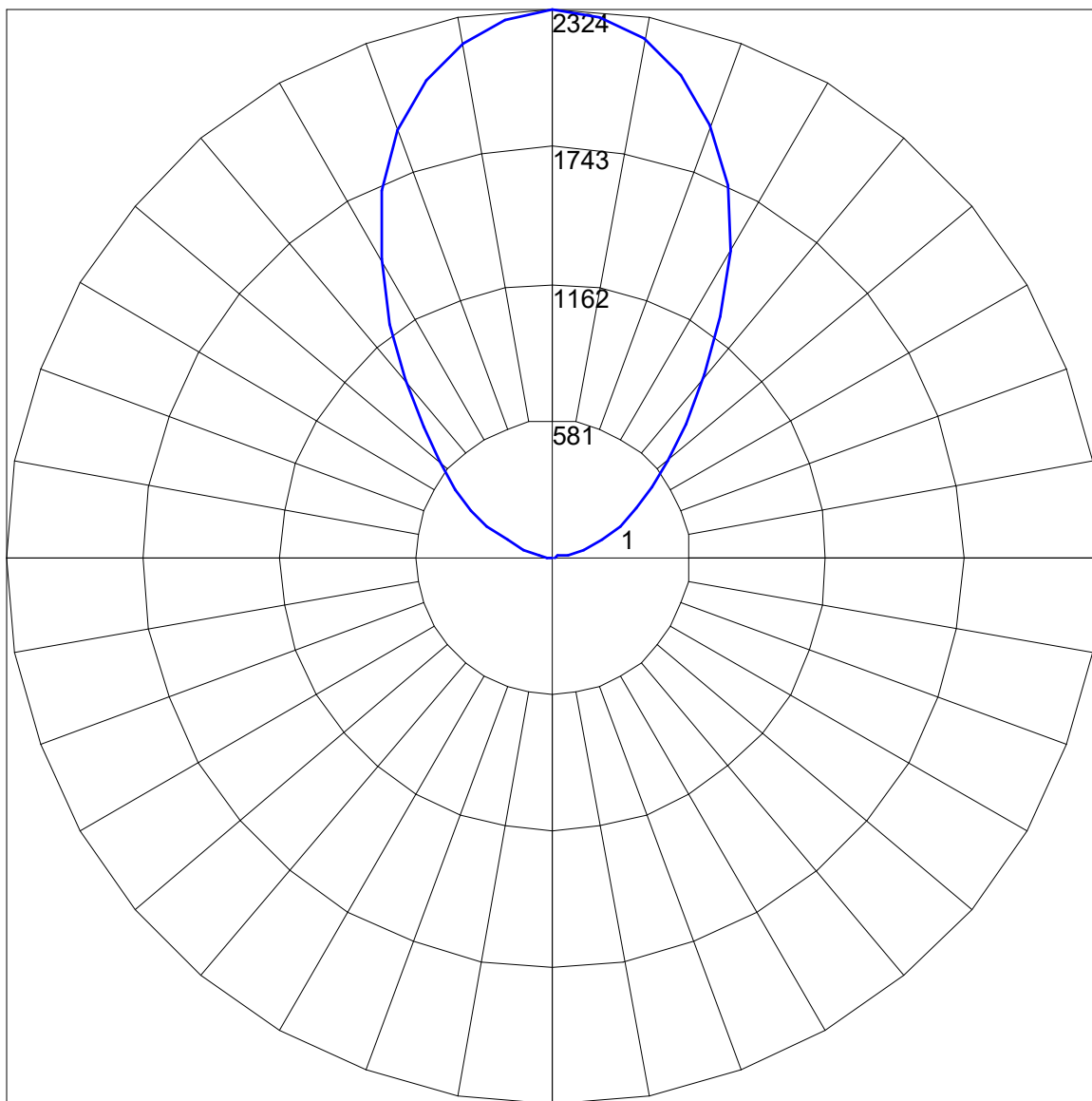
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 2324 Located At Horizontal Angle = 0, Vertical Angle = 180
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)