



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-325-1050-35-4-BW-ID.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200616-5
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/06/16
 [ISSUE DATE] 2020/06/29
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-325-HLO-35-4-BW-ID
 [LUMINAIRE]
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Osram 50W
 [OTHER]DFBW 30:70
 [_OPTICS]BW
 [_TRIM]N/A
 [_WATTAGE]35.03
 [_VOLTAGE]120
 [_CURRENT]880mA
 [_WIDTH]47
 [_LENGTH]3
 [_HEIGHT]0
 [_CONVERT] Photometric web converted from original test data
 [_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	4185
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	120
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	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001
95	29.617	29.492	29.846	30.118	29.675	28.570	26.763	25.207	24.093	23.560
100	90.118	90.345	92.216	94.012	94.312	92.032	87.396	83.731	81.369	80.426
105	190.635	191.359	195.420	200.448	202.853	198.696	188.578	179.368	173.044	170.901
110	332.565	333.879	341.415	350.977	355.748	344.362	320.314	294.915	277.933	272.800
115	507.873	510.440	521.778	535.536	536.940	511.971	462.440	410.525	379.040	370.262
120	709.026	712.766	726.927	737.550	730.464	688.001	604.486	520.155	471.786	458.884
125	929.123	931.033	939.280	942.820	924.476	859.102	739.229	621.901	555.548	538.336
130	1140.615	1140.448	1143.508	1135.803	1101.997	1012.385	860.164	714.902	631.929	610.797
135	1326.327	1323.245	1318.955	1300.405	1249.676	1136.343	961.887	798.335	703.106	679.192
140	1474.116	1469.063	1458.550	1428.099	1358.606	1225.979	1041.664	872.059	771.109	746.304
145	1581.357	1574.068	1555.529	1511.119	1423.390	1279.705	1098.384	936.126	837.512	814.112
150	1638.511	1628.409	1600.335	1541.986	1441.875	1298.952	1134.287	990.682	902.542	883.296
155	1632.541	1620.097	1584.235	1517.740	1417.672	1289.023	1151.865	1036.120	965.528	952.371
160	1557.490	1544.761	1507.719	1444.951	1358.771	1257.674	1156.310	1073.512	1024.436	1018.061
165	1427.013	1416.924	1387.759	1341.246	1281.487	1215.707	1153.021	1103.864	1076.571	1076.118
170	1281.934	1276.693	1261.403	1237.464	1208.395	1177.663	1149.486	1128.669	1118.759	1121.906
175	1179.519	1178.514	1175.119	1169.813	1163.282	1156.880	1151.365	1148.050	1147.868	1151.341
180	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000

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	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001
95	23.969	24.759	25.773	26.895	27.586	27.676	27.458	27.311	27.270	27.765
100	80.589	81.593	83.524	86.028	87.431	86.534	84.579	83.032	82.588	84.658
105	172.380	176.505	182.498	188.116	190.236	187.015	181.477	177.185	175.806	180.552
110	278.544	293.412	314.211	331.728	338.247	333.123	322.966	314.697	311.934	320.828
115	381.381	412.531	458.165	498.639	516.245	513.184	500.581	489.449	485.530	499.218
120	476.526	527.452	605.337	675.638	707.855	708.751	696.880	684.937	680.583	698.406
125	563.621	636.317	749.522	852.778	903.206	912.128	902.976	891.932	887.690	908.459
130	644.383	738.406	883.447	1017.158	1088.942	1110.261	1108.751	1101.784	1098.791	1119.896
135	720.636	832.186	999.616	1156.250	1249.407	1286.672	1296.067	1295.462	1295.022	1313.392
140	794.130	916.302	1093.240	1262.662	1373.202	1427.660	1449.229	1456.236	1458.518	1473.658
145	865.608	989.474	1163.422	1333.844	1456.301	1526.412	1560.709	1575.534	1580.513	1590.826
150	934.479	1050.580	1209.411	1369.657	1495.889	1577.772	1623.912	1647.277	1655.051	1657.555
155	998.855	1098.461	1232.877	1372.822	1491.989	1578.090	1632.971	1662.926	1673.318	1666.546
160	1056.175	1133.203	1236.572	1347.416	1448.599	1528.715	1584.572	1617.226	1628.922	1614.540
165	1103.558	1155.374	1224.621	1300.960	1374.388	1436.822	1483.501	1512.456	1523.060	1505.654
170	1138.347	1166.578	1203.618	1244.771	1285.735	1322.286	1351.017	1369.492	1376.593	1361.951
175	1158.234	1168.283	1180.689	1194.102	1207.555	1219.498	1229.140	1235.673	1238.416	1230.328
180	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000

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	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001	5.001
95	28.358	29.039	29.436	29.137	28.361	27.559	26.907	26.611	27.382	28.762
100	86.910	89.615	91.249	90.460	88.491	86.836	86.098	86.099	87.241	89.762
105	185.838	192.364	196.562	195.391	190.484	184.699	180.744	179.476	181.770	188.247
110	330.137	341.721	348.081	342.540	324.789	303.264	287.875	282.279	287.901	305.487
115	511.763	525.344	529.449	512.489	470.664	422.580	390.247	379.127	388.825	421.446
120	711.370	724.132	723.945	692.140	619.319	537.504	484.558	466.889	481.049	531.331
125	920.227	930.144	921.763	871.330	764.692	646.228	571.030	545.780	564.586	633.737

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CANDELA TABULATION - (Cont.)

130	1127.531	1129.675	1108.740	1036.291	898.679	747.925	651.347	617.953	641.123	727.503
135	1314.844	1306.262	1268.471	1173.948	1013.635	841.043	727.383	686.306	712.545	811.768
140	1467.531	1445.596	1390.096	1277.373	1105.215	924.054	800.554	753.529	780.950	885.894
145	1576.278	1540.767	1468.717	1344.572	1172.138	995.828	871.630	821.504	847.500	949.708
150	1634.785	1587.127	1503.529	1376.187	1215.154	1055.354	939.896	890.612	912.342	1003.397
155	1637.372	1582.196	1494.877	1375.453	1235.724	1101.797	1003.472	959.168	974.587	1047.471
160	1583.147	1527.984	1447.766	1346.879	1237.062	1135.199	1059.912	1023.851	1032.168	1082.706
165	1478.144	1432.506	1371.043	1298.771	1223.884	1156.412	1106.184	1080.422	1082.422	1110.934
170	1344.757	1317.403	1282.107	1242.561	1202.401	1166.913	1140.001	1124.615	1122.522	1133.211
175	1224.830	1216.183	1205.087	1192.669	1179.735	1168.182	1158.904	1152.516	1149.626	1150.134
180	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000

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	5.001	5.001	5.001	5.001	5.001	5.001	5.001
95	30.434	32.200	33.168	33.044	31.867	30.447	29.617
100	93.496	97.974	100.371	99.200	95.845	92.180	90.118
105	197.133	206.760	211.508	207.805	200.630	194.115	190.635
110	330.728	353.870	367.103	360.713	348.157	337.641	332.565
115	473.906	521.815	549.675	547.089	529.580	514.802	507.873
120	616.784	697.815	744.019	749.626	735.399	717.625	709.026
125	752.789	869.168	938.649	955.514	947.486	935.595	929.123
130	875.112	1023.139	1116.485	1148.701	1151.761	1145.525	1140.615
135	978.143	1148.399	1263.722	1312.841	1327.039	1328.359	1326.327
140	1058.365	1239.627	1371.797	1438.931	1465.823	1473.910	1474.116
145	1115.027	1294.679	1435.381	1520.226	1561.722	1578.261	1581.357
150	1149.831	1314.378	1452.198	1549.349	1605.329	1631.863	1638.511
155	1165.533	1303.110	1425.119	1523.359	1587.959	1622.604	1632.541
160	1167.086	1269.250	1363.366	1448.094	1509.996	1546.109	1557.490
165	1161.255	1224.650	1283.848	1342.306	1388.570	1417.296	1427.013
170	1154.568	1183.252	1209.225	1237.482	1261.261	1276.609	1281.934
175	1153.519	1159.125	1163.176	1169.200	1174.545	1178.213	1179.519
180	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000	1161.000

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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	248.89	N.A.	5.90
90-120	723.42	N.A.	17.30
90-130	1440.98	N.A.	34.40
90-150	3085.12	N.A.	73.70
90-180	4185.09	N.A.	100.00
110-180	3936.21	N.A.	94.10
0-180	4185.09	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	40.83
100-110	208.05
110-120	474.54
120-130	717.56
130-140	841.71
140-150	802.43
150-160	621.24
160-170	364.63
170-180	114.10

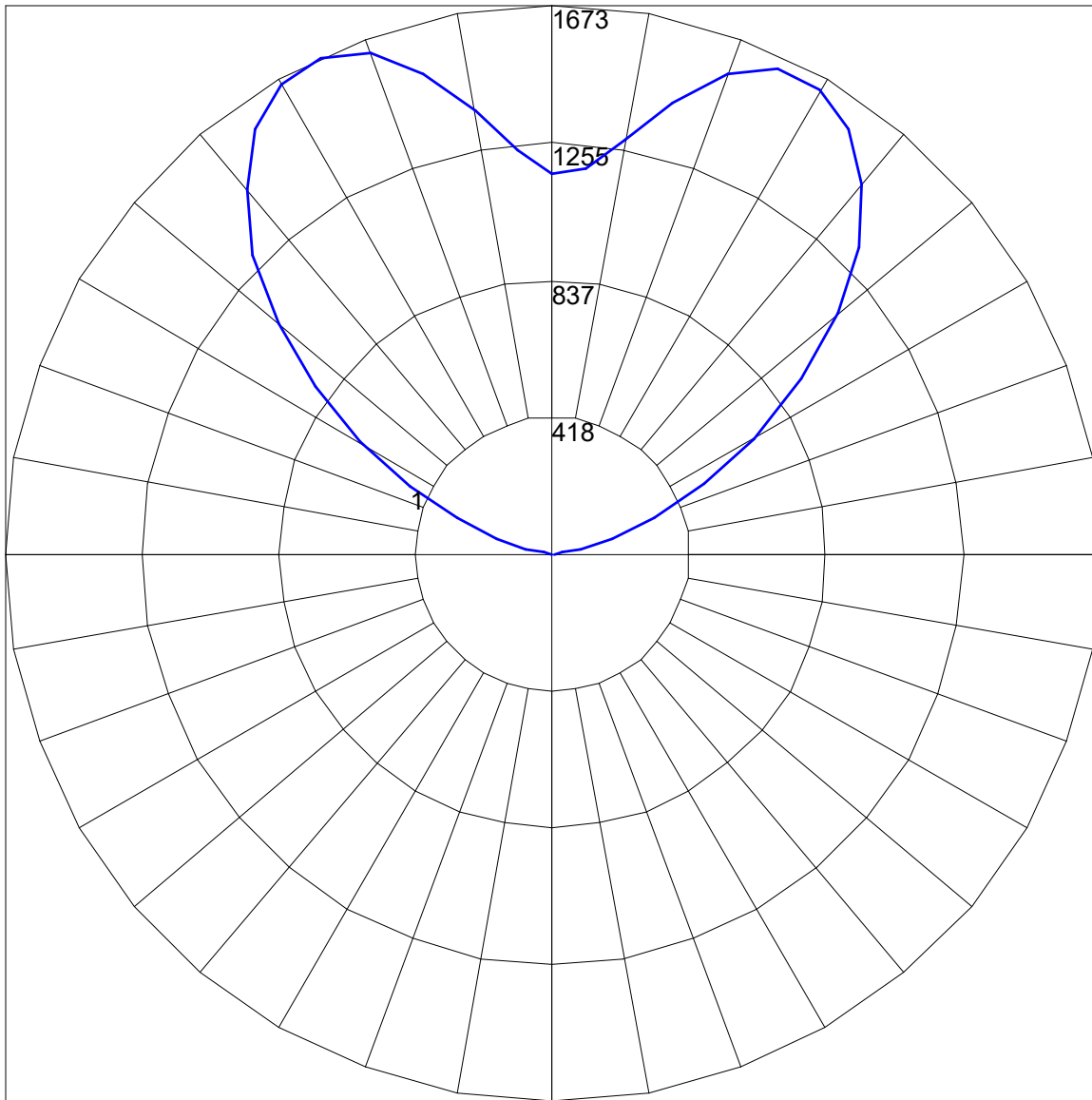
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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 = 1673.318 Located At Horizontal Angle = 180, Vertical Angle = 155
1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)