



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-325-850-35-4-FW.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200617-2
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/06/17
 [ISSUE DATE] 2020/06/26
 [MANUFAC]Birchwood
 [LUMCAT]KEL-LED-325-HLO-35-4-FW
 [LUMINAIRE]
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Osram 50W
 [OPTICS]Frosted White
 [WATTAGE]35.06
 [VOLTAGE]120

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3411
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	97
Total Luminaire Watts	35
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	Rectangular
Luminous Length (0-180)	1.19 m
Luminous Width (90-270)	0.08 m
Luminous Height	0.00 m

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	12081	12219	12266
55	11445	11590	11636
65	10767	10882	10880
75	10049	10091	9995
85	9823	9618	9152

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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	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021
5	1240.334	1240.767	1241.244	1240.944	1239.602	1238.863	1238.486	1237.762	1237.360	1236.913
10	1220.392	1222.140	1220.470	1219.047	1218.734	1218.610	1218.525	1218.109	1217.520	1216.931
15	1187.565	1189.747	1186.521	1186.370	1186.236	1186.232	1186.260	1185.845	1185.204	1184.501
20	1141.863	1142.682	1141.563	1142.228	1142.509	1142.156	1142.252	1141.901	1141.285	1140.362
25	1083.453	1083.726	1083.784	1085.543	1086.486	1087.697	1087.493	1087.155	1086.570	1085.464
30	1015.696	1015.435	1016.458	1018.334	1020.251	1022.260	1023.628	1022.915	1022.284	1021.203
35	939.926	939.918	942.426	943.378	946.006	948.521	950.793	950.694	949.831	948.616
40	858.567	858.615	860.668	862.567	865.542	868.381	870.844	872.000	870.661	869.369
45	772.912	773.007	774.589	777.229	780.203	783.249	785.778	787.531	786.254	784.733
50	684.249	684.409	685.906	688.405	691.316	694.271	696.757	698.273	697.528	695.758
55	593.930	593.997	595.328	597.553	600.192	602.729	604.930	606.223	605.911	603.856
60	502.745	502.850	503.863	505.693	507.755	509.872	511.612	512.539	512.648	510.185
65	411.719	411.706	412.512	413.859	415.361	416.862	417.971	418.454	418.291	416.029
70	322.260	322.047	322.657	323.461	324.335	325.233	325.505	325.579	325.159	323.429
75	235.334	235.138	235.295	235.755	236.139	236.484	236.497	236.210	235.669	234.067
80	153.227	152.944	152.894	152.951	152.987	152.852	152.532	152.020	151.376	150.126
85	77.459	77.115	76.791	76.509	76.112	75.572	74.877	74.099	73.258	72.168
90	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394

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	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021
5	1236.741	1236.668	1236.821	1236.978	1236.981	1237.566	1237.287	1235.253	1235.010	1235.236
10	1216.393	1216.034	1215.720	1215.109	1214.622	1214.097	1214.088	1212.969	1212.690	1213.126
15	1183.691	1182.740	1181.987	1180.996	1179.974	1179.053	1178.411	1178.027	1177.299	1177.857
20	1139.188	1137.923	1136.608	1134.968	1133.554	1132.340	1131.041	1130.393	1129.430	1130.392
25	1084.027	1082.306	1080.490	1078.498	1076.074	1074.134	1072.583	1070.936	1070.706	1071.582
30	1019.421	1017.363	1015.141	1012.246	1009.214	1006.623	1004.536	1002.696	1002.349	1003.443
35	946.690	944.263	941.519	937.989	934.424	931.241	928.829	926.731	926.452	927.735
40	867.266	864.782	861.459	857.425	853.496	849.984	847.281	845.167	844.921	846.331
45	782.500	779.800	776.110	771.876	767.747	764.141	761.327	759.372	759.076	760.484
50	693.484	690.535	686.798	682.644	678.459	674.953	672.320	670.494	670.310	671.736
55	601.555	598.469	594.799	590.829	586.838	583.555	581.162	579.581	579.505	580.965
60	507.949	504.813	501.347	497.696	494.136	491.217	489.155	487.908	487.949	489.405
65	413.754	410.784	407.655	404.503	401.490	399.045	397.381	396.462	396.673	398.051
70	321.143	318.378	315.651	313.024	310.583	308.662	307.386	306.884	307.148	308.448
75	231.768	229.192	226.841	224.699	222.840	221.417	220.517	220.264	220.685	221.975
80	147.856	145.532	143.573	141.880	140.496	139.551	139.083	139.081	139.544	140.696
85	70.085	68.181	66.672	65.393	64.517	64.028	63.853	64.152	64.770	65.805
90	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394

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	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021
5	1235.353	1235.410	1235.729	1236.115	1236.000	1236.541	1237.040	1237.397	1237.600	1237.739
10	1213.488	1213.927	1214.658	1215.350	1215.485	1216.632	1217.544	1218.366	1218.761	1219.073
15	1178.627	1179.391	1180.699	1181.926	1182.490	1184.128	1185.571	1186.781	1187.346	1187.661
20	1131.639	1133.065	1135.028	1136.618	1137.647	1139.977	1141.824	1143.349	1144.068	1144.378
25	1073.245	1075.396	1078.185	1080.761	1082.046	1084.892	1087.289	1089.036	1090.022	1090.245
30	1005.553	1008.258	1011.709	1015.012	1017.137	1020.287	1023.163	1025.170	1026.158	1026.526
35	930.209	933.422	937.380	941.162	943.926	947.578	950.688	953.014	954.049	954.454

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CANDELA TABULATION - (Cont.)

40	848.941	852.453	856.868	860.978	864.175	868.458	871.562	874.043	875.097	876.026
45	763.336	767.093	771.596	775.985	779.380	783.935	787.149	789.632	790.827	791.716
50	674.546	678.300	682.780	687.086	690.712	695.213	698.497	700.935	702.420	702.633
55	583.693	587.373	591.586	595.814	599.384	603.684	606.968	609.272	611.013	610.778
60	491.998	495.439	499.298	503.223	506.676	510.571	513.869	515.907	517.971	517.329
65	400.468	403.505	407.046	410.503	413.567	417.048	420.054	422.049	423.846	423.397
70	310.635	313.341	316.335	319.304	321.938	324.908	327.263	329.176	330.631	330.459
75	223.870	226.167	228.622	231.034	233.219	235.621	237.878	239.658	240.812	240.840
80	142.357	144.229	146.207	148.143	149.938	151.885	153.837	155.555	156.336	156.467
85	67.180	68.707	70.281	71.852	73.391	74.974	76.627	78.240	78.746	78.936
90	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394	6.394

Vert. Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021	1244.021
5	1237.846	1238.253	1238.014	1237.847	1237.816	1237.548	1237.328
10	1219.150	1219.587	1219.228	1218.990	1218.863	1218.623	1218.016
15	1187.689	1188.005	1187.577	1187.258	1186.860	1186.717	1185.696
20	1144.391	1144.519	1144.058	1143.801	1142.701	1141.821	1140.451
25	1090.217	1090.632	1088.851	1087.166	1085.669	1084.419	1082.685
30	1026.660	1025.530	1023.144	1020.832	1018.865	1017.302	1015.135
35	954.204	952.088	949.121	946.392	944.039	942.234	939.802
40	874.472	872.136	868.919	865.768	863.112	862.183	858.633
45	789.601	787.062	783.646	780.473	777.696	777.693	773.214
50	700.760	698.204	694.978	691.791	688.937	686.919	684.581
55	609.025	606.796	603.788	600.791	598.128	596.277	594.082
60	515.883	513.980	511.462	508.828	506.530	504.932	502.977
65	422.327	420.909	418.976	416.867	414.930	413.484	411.928
70	329.868	328.953	327.653	326.072	324.805	323.691	322.350
75	240.655	240.217	239.480	238.382	237.300	236.439	235.400
80	156.480	156.378	156.012	155.393	154.667	154.034	153.254
85	79.100	79.220	79.151	78.880	78.484	78.035	77.452
90	6.394	6.394	6.394	6.394	6.394	6.394	6.394

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	451.33	N.A.	13.20
0-30	950.02	N.A.	27.90
0-40	1539.77	N.A.	45.10
0-60	2673.77	N.A.	78.40
0-80	3328.76	N.A.	97.60
0-90	3410.87	N.A.	100.00
10-90	3293.4	N.A.	96.60
20-40	1088.44	N.A.	31.90
20-50	1688.26	N.A.	49.50
40-70	1542.27	N.A.	45.20
60-80	654.99	N.A.	19.20
70-80	246.72	N.A.	7.20
80-90	82.10	N.A.	2.40
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3410.87	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	117.47
10-20	333.86
20-30	498.69
30-40	589.75
40-50	599.82
50-60	534.18
60-70	408.27
70-80	246.72
80-90	82.10
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

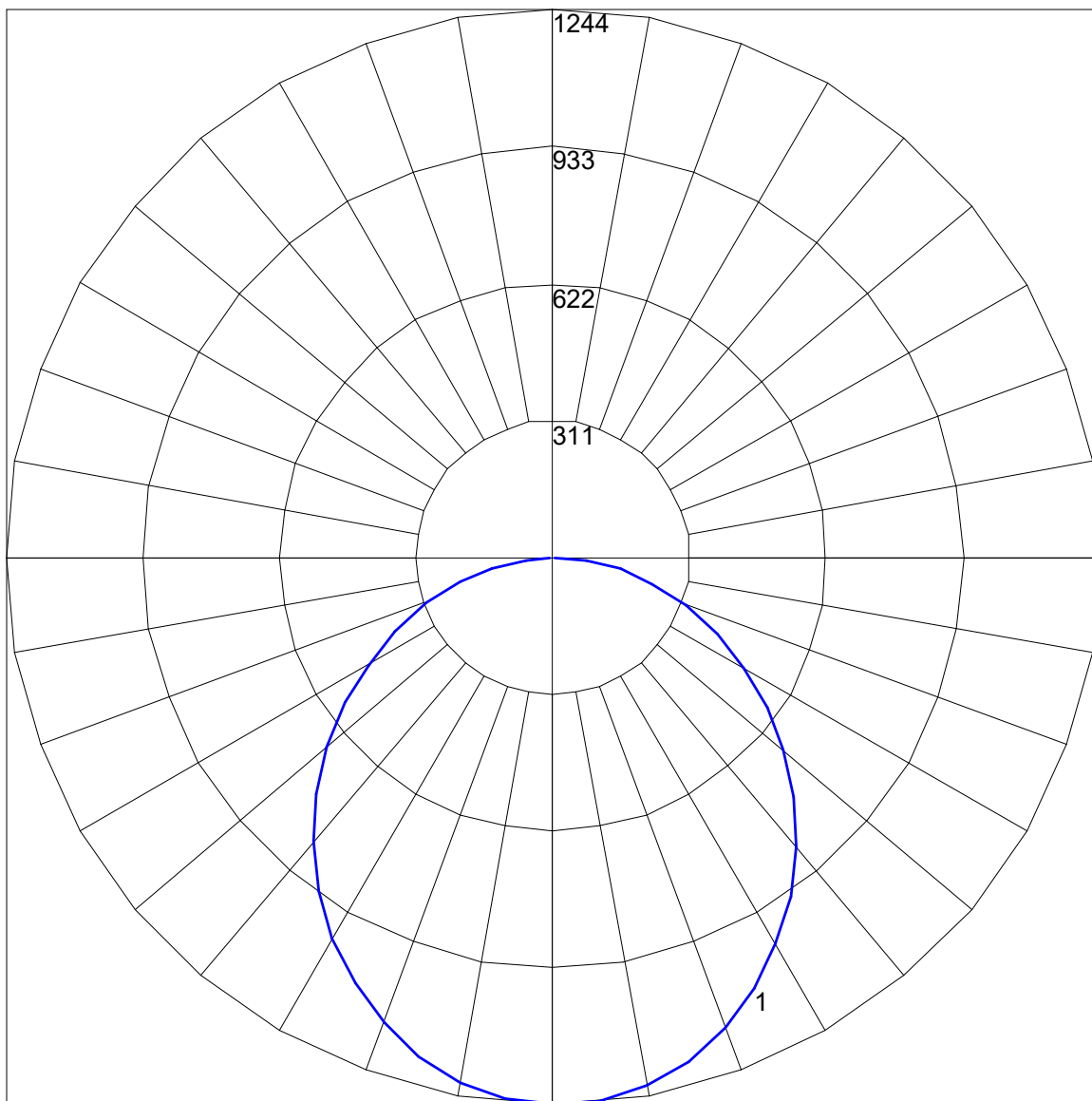
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	99	95	106	101	97	94	97	94	91	93	90	88	90	87	85	83
2	99	90	83	78	96	88	82	77	85	79	75	82	77	73	78	75	71	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	62	69	65	61	58
4	82	70	61	55	80	69	61	54	66	59	54	64	58	53	62	57	52	50
5	76	63	54	47	74	62	53	47	60	52	46	58	51	46	56	50	45	43
6	70	57	48	41	68	56	47	41	54	46	41	52	45	40	51	45	40	38
7	65	51	43	36	63	51	42	36	49	41	36	48	41	36	46	40	35	33
8	60	47	38	33	59	46	38	32	45	37	32	44	37	32	42	36	32	30
9	57	43	35	29	55	42	35	29	41	34	29	40	34	29	39	33	29	27
10	53	40	32	27	52	39	32	27	38	31	26	37	31	26	36	30	26	24

POLAR GRAPH



Maximum Candela = 1244.021 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)