



IES INDOOR REPORT

PHOTOMETRIC FILENAME : KEL-LED-325-870-35-4-E70.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]20200615-4
 [TESTLAB]Intense Lighting Lab
 [TESTDATE]2020/06/15
 [ISSUEDATE] 2020/06/26
 [MANUFAC]BirchWood
 [LUMCAT]KEL-LED-325-HLO-35-4-E70
 [LUMINAIRE]
 [LAMPCAT]59637
 [LAMP]3500K 80CRI
 [BALLASTCAT]Osram 50w
 [OTHER]DFEP 70:02+DF90C
 [_OPTICS]E70
 [_TRIM]N/A
 [_WATTAGE] 35.04
 [_VOLTAGE]120
 [_CURRENT]880mA
 [_WIDTH]47
 [_LENGTH]3
 [_HEIGHT]0

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3483
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	100
Total Luminaire Watts	35
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.12
Spacing Criterion (Diagonal)	1.20
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	14096	11439	10893
55	11311	9352	9905
65	8378	8170	9639
75	5167	5841	7701
85	2583	2781	3125

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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	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725
5	1611.429	1610.399	1609.905	1609.597	1609.212	1608.989	1608.847	1608.831	1608.781	1608.885
10	1583.861	1583.032	1582.009	1580.826	1579.773	1578.715	1577.925	1577.512	1577.280	1577.108
15	1539.595	1538.248	1536.187	1533.988	1531.323	1528.544	1526.316	1524.554	1523.363	1522.902
20	1478.308	1476.325	1472.671	1467.843	1462.219	1456.398	1451.182	1446.891	1444.251	1443.287
25	1399.694	1396.586	1390.055	1380.374	1369.176	1357.665	1347.352	1339.378	1334.265	1332.333
30	1303.258	1298.070	1285.884	1267.621	1246.965	1226.723	1209.465	1196.569	1188.693	1186.114
35	1187.760	1179.257	1157.276	1126.121	1092.919	1063.411	1040.356	1024.582	1015.662	1012.805
40	1052.988	1039.682	1004.937	959.922	917.370	884.011	861.635	848.242	841.587	839.849
45	901.847	883.842	838.622	787.163	745.378	718.337	704.183	698.373	696.674	696.909
50	742.159	723.045	677.065	630.887	600.084	586.159	583.704	586.754	590.456	592.495
55	586.995	571.243	534.559	501.891	485.706	484.993	492.923	502.998	510.750	514.014
60	446.119	435.919	413.094	395.223	391.724	400.879	415.745	430.158	440.086	443.983
65	320.353	315.252	304.978	299.608	304.941	319.854	337.932	353.973	364.592	368.568
70	209.650	207.597	204.755	206.669	216.331	232.512	250.660	266.273	276.578	280.419
75	120.987	120.193	119.914	122.874	130.833	142.715	155.963	167.980	176.718	180.333
80	58.556	58.212	58.306	59.950	63.776	69.123	74.747	79.806	83.621	85.509
85	20.366	20.191	20.143	20.490	21.355	22.512	23.532	24.263	24.558	24.643
90	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985

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	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725
5	1609.087	1609.465	1609.964	1610.396	1610.974	1611.487	1611.768	1612.282	1611.688	1611.828
10	1577.296	1578.164	1579.055	1580.412	1581.747	1583.202	1584.276	1585.213	1585.338	1585.244
15	1523.510	1524.932	1527.048	1529.838	1532.793	1535.927	1538.735	1540.830	1541.149	1541.065
20	1444.177	1447.015	1451.344	1456.896	1463.090	1469.261	1474.618	1478.688	1479.947	1479.832
25	1333.782	1338.583	1346.491	1357.081	1368.667	1380.658	1390.816	1398.451	1401.236	1400.511
30	1188.248	1195.608	1208.058	1224.957	1244.898	1266.253	1285.074	1298.923	1304.510	1302.265
35	1015.626	1024.334	1039.464	1061.464	1090.062	1123.059	1154.644	1178.432	1188.524	1184.221
40	842.218	849.292	862.389	883.888	915.469	956.586	1000.882	1037.357	1053.861	1045.966
45	697.891	700.432	706.603	720.156	745.663	785.223	835.030	881.493	904.222	892.602
50	591.870	589.284	587.179	589.678	602.670	631.552	675.548	722.593	747.596	734.213
55	512.205	505.730	496.845	489.604	490.350	504.901	535.709	574.378	596.406	584.004
60	441.446	432.787	419.889	406.132	397.452	400.399	416.665	440.518	455.524	447.334
65	365.817	356.599	341.970	325.018	311.490	305.652	310.084	322.047	330.073	325.997
70	277.846	268.923	254.745	238.032	222.987	213.095	211.509	215.765	219.550	218.400
75	178.115	170.747	159.732	147.618	136.126	128.322	125.683	126.747	128.182	128.331
80	84.779	81.729	77.106	71.995	66.767	63.089	61.653	61.714	62.223	62.742
85	24.856	24.746	24.173	23.334	22.230	21.451	21.103	21.150	21.391	21.758
90	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985

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	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725
5	1611.862	1611.688	1611.556	1611.685	1611.865	1611.878	1611.661	1611.559	1611.558	1611.573
10	1585.030	1584.621	1583.926	1583.269	1582.690	1582.205	1581.738	1581.396	1581.229	1581.604
15	1540.338	1538.832	1536.733	1534.392	1532.571	1530.887	1529.658	1528.923	1529.045	1529.984
20	1477.635	1473.966	1469.082	1463.870	1459.345	1455.461	1452.833	1451.514	1451.728	1453.667
25	1395.741	1387.737	1378.030	1367.456	1358.267	1350.744	1345.830	1343.598	1344.139	1348.088
30	1292.675	1277.261	1258.956	1240.577	1224.833	1212.700	1204.991	1201.686	1202.588	1208.433
35	1166.222	1139.553	1109.951	1082.596	1060.944	1045.464	1036.058	1031.920	1032.879	1039.361

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CANDELA TABULATION - (Cont.)

40	1017.194	977.671	938.553	906.400	884.038	869.673	861.544	857.881	858.007	862.893
45	854.015	806.715	766.295	738.432	722.836	715.152	711.630	709.969	709.056	709.804
50	692.902	648.640	617.170	601.058	596.800	598.098	600.481	601.252	599.278	595.417
55	548.892	516.465	499.088	495.989	502.397	511.396	518.372	521.011	518.226	510.712
60	425.662	407.987	402.970	410.259	424.125	437.934	447.636	451.196	448.037	438.383
65	316.102	311.180	315.993	329.207	347.041	362.931	373.489	377.256	373.979	363.465
70	215.532	217.548	227.628	243.193	261.402	277.232	287.387	290.791	287.299	276.681
75	128.502	131.887	140.501	152.999	166.748	179.321	187.822	190.553	186.763	177.284
80	63.657	65.886	70.384	76.515	82.697	88.195	91.710	92.521	90.410	86.092
85	22.366	23.293	24.655	26.302	27.685	28.586	28.698	28.349	28.184	27.693
90	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985	3.985

**Vert.
Angles**

Horizontal Angles

	<u>300</u>	<u>310</u>	<u>320</u>	<u>330</u>	<u>340</u>	<u>350</u>	<u>360</u>
0	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725	1620.725
5	1611.719	1612.089	1611.991	1611.725	1611.542	1611.305	1610.590
10	1581.963	1583.317	1583.928	1584.330	1584.679	1584.675	1583.777
15	1531.488	1534.196	1536.310	1538.134	1539.655	1540.375	1539.544
20	1457.298	1462.719	1467.753	1472.558	1476.486	1478.777	1478.361
25	1354.737	1364.805	1375.141	1385.115	1393.758	1399.228	1399.857
30	1219.146	1235.588	1253.488	1272.477	1289.282	1300.666	1303.347
35	1052.719	1074.225	1100.472	1130.957	1160.139	1181.453	1188.003
40	874.192	895.131	924.786	963.998	1006.532	1040.708	1053.190
45	714.380	727.371	751.182	789.492	838.527	883.290	901.753
50	591.769	593.275	604.468	631.752	675.265	721.026	742.085
55	500.467	491.695	489.919	502.765	532.552	568.888	586.985
60	423.955	408.206	396.764	397.143	412.465	434.612	446.139
65	347.167	327.911	311.071	302.889	306.016	315.350	320.434
70	260.463	241.059	222.710	210.515	206.641	208.391	209.710
75	164.273	149.709	136.128	126.277	121.856	121.184	121.070
80	80.378	73.889	67.440	62.416	59.805	58.988	58.581
85	26.573	25.011	23.242	21.780	20.941	20.590	20.360
90	3.985	3.985	3.985	3.985	3.985	3.985	3.985

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	584.55	N.A.	16.80
0-30	1212.21	N.A.	34.80
0-40	1894.34	N.A.	54.40
0-60	2960.2	N.A.	85.00
0-80	3448.99	N.A.	99.00
0-90	3482.6	N.A.	100.00
10-90	3329.75	N.A.	95.60
20-40	1309.79	N.A.	37.60
20-50	1907.3	N.A.	54.80
40-70	1394.41	N.A.	40.00
60-80	488.79	N.A.	14.00
70-80	160.25	N.A.	4.60
80-90	33.60	N.A.	1.00
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	3482.6	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	152.85
10-20	431.71
20-30	627.66
30-40	682.12
40-50	597.52
50-60	468.35
60-70	328.55
70-80	160.25
80-90	33.60
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

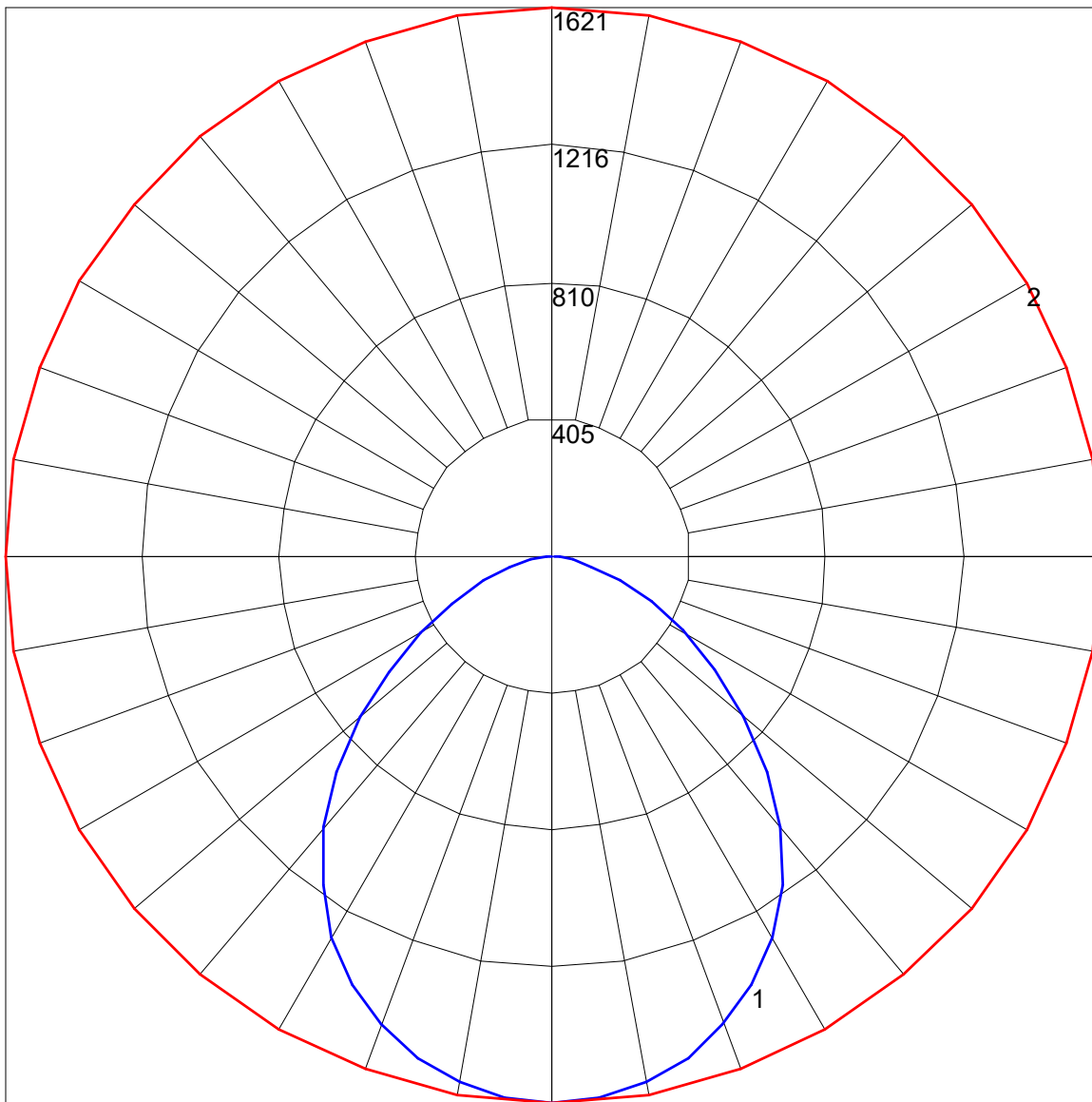
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	110	106	102	99	107	104	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	84	79	85	81	78	82	79	76	74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	58	56
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	47	58	51	46	57	51	46	55	50	45	43
7	69	56	48	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

POLAR GRAPH



Maximum Candela = 1620.725 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)