



IES INDOOR REPORT
PHOTOMETRIC FILENAME : IHB2-LED-09L-DA-40.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] 3565
[TESTLAB] TUV SUD America
[TESTDATE] 10/25/2018 10:34:56 AM
[ISSUEDATE] 04/19/21
[MANUFAC] LSI INDUSTRIES, INC
[LUMCAT] IHB2-LED-09L-DA-40
[OTHER] TEST PROCEDURE: IESNA LM-79-08
[ABSOLUTE] NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED
[OTHER] SCALED FROM ORIGINAL TEST DATA
[SEARCH_SOURCETYPE] LED
[SEARCH_APPLICATION] Indoor
[SEARCH_COLORTEMP] 4000

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	9631
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	74
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	2.00 ft
Luminous Width (90-270)	0.60 ft
Luminous Height	0.00 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	27435	27640	27179
55	24920	25097	23756
65	21999	22352	19724
75	19959	20040	15405
85	26460	24137	10289

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>	<u>112.5</u>	<u>135.0</u>	<u>157.5</u>	<u>180.0</u>	<u>202.5</u>
0.0	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984
2.5	3568.278	3572.954	3579.570	3580.388	3581.823	3578.863	3576.732	3570.156	3568.389	3570.156
5.0	3554.359	3562.399	3567.621	3569.399	3570.328	3566.399	3561.864	3554.712	3555.379	3554.712
7.5	3530.238	3541.309	3547.298	3549.268	3549.925	3544.501	3538.228	3528.743	3532.420	3528.743
10.0	3497.229	3511.380	3516.592	3518.501	3519.118	3512.017	3504.461	3494.169	3499.926	3494.169
12.5	3453.736	3470.129	3477.351	3478.563	3478.119	3470.654	3461.241	3449.423	3457.221	3449.423
15.0	3400.172	3420.797	3427.171	3430.787	3429.848	3420.818	3410.353	3394.748	3404.636	3394.748
17.5	3337.891	3361.385	3368.264	3373.728	3372.415	3361.799	3346.699	3331.518	3342.709	3331.518
20.0	3269.742	3291.963	3301.317	3307.337	3307.690	3293.893	3276.550	3260.348	3274.459	3260.348
22.5	3190.330	3216.885	3225.067	3232.208	3231.955	3217.794	3197.845	3179.906	3193.805	3179.906
25.0	3102.293	3131.453	3139.019	3146.301	3147.190	3129.938	3107.525	3090.212	3107.979	3090.212
27.5	3009.427	3037.396	3044.365	3052.133	3050.951	3033.406	3011.296	2994.064	3014.164	2994.064
30.0	2907.319	2937.642	2940.520	2948.197	2948.298	2928.561	2906.077	2888.583	2912.642	2888.583
32.5	2795.687	2827.958	2831.019	2835.453	2835.685	2814.312	2790.980	2777.657	2804.656	2777.657
35.0	2681.034	2712.780	2711.568	2715.023	2711.609	2692.498	2671.741	2660.550	2692.458	2660.550
37.5	2557.048	2593.319	2586.108	2586.047	2579.623	2562.704	2547.129	2537.715	2572.411	2537.715
40.0	2432.315	2464.485	2458.102	2448.183	2440.728	2424.911	2414.992	2413.123	2451.445	2413.123
42.5	2301.975	2336.772	2321.389	2306.420	2296.440	2283.087	2280.936	2280.784	2321.379	2280.784
45.0	2164.768	2199.120	2180.899	2158.142	2144.556	2136.779	2138.546	2146.051	2184.585	2146.051
47.5	2026.651	2060.751	2038.893	2009.884	1990.965	1987.056	1997.864	2007.955	2050.731	2007.955
50.0	1885.332	1920.069	1893.928	1857.778	1837.576	1834.465	1854.445	1870.394	1907.635	1870.394
52.5	1742.953	1778.982	1750.549	1705.348	1678.733	1683.551	1712.762	1729.085	1765.417	1729.085
55.0	1594.988	1636.038	1606.311	1552.303	1520.496	1532.192	1568.767	1584.090	1616.331	1584.090
57.5	1449.882	1490.537	1462.235	1402.328	1366.188	1384.096	1428.469	1445.377	1478.548	1445.377
60.0	1308.331	1350.067	1325.169	1257.908	1216.940	1239.364	1290.877	1304.553	1340.148	1304.553
62.5	1167.406	1213.304	1186.870	1118.893	1072.319	1098.621	1154.952	1167.618	1197.658	1167.618
65.0	1037.471	1076.834	1054.107	982.645	930.162	966.625	1025.128	1036.471	1065.945	1036.471
67.5	900.365	942.070	920.223	846.073	796.227	833.478	893.112	906.213	929.525	906.213
70.0	783.914	819.589	797.358	725.441	672.352	715.795	772.692	786.237	809.378	786.237
72.5	675.301	708.462	685.473	613.455	555.447	598.970	661.090	679.271	701.129	679.271
75.0	576.446	604.788	578.789	503.277	444.905	490.459	557.770	577.163	599.890	577.163
77.5	483.964	508.448	479.530	401.734	343.756	392.078	461.530	484.378	507.711	484.378
80.0	401.744	421.734	389.462	310.545	252.840	303.162	374.392	399.684	422.612	399.684
82.5	327.222	341.656	308.859	230.599	171.893	223.013	294.728	323.141	346.878	323.141
85.0	257.335	271.244	234.750	159.752	100.067	153.046	221.760	255.153	277.668	255.153
87.5	196.650	208.660	171.520	98.674	38.362	93.138	160.914	194.024	217.336	194.024
90.0	152.601	155.894	121.036	56.746	2.394	54.907	115.057	146.500	161.520	146.500
92.5	138.773	135.329	102.805	43.898	0.758	42.857	99.047	129.349	139.319	129.349
95.0	127.865	123.067	91.664	37.332	0.939	36.908	88.482	118.774	128.733	118.774
97.5	118.481	113.481	83.240	33.342	1.333	32.928	81.018	110.017	119.653	110.017
100.0	110.845	105.552	76.674	30.474	1.404	30.060	75.008	102.966	112.734	102.966
102.5	104.997	99.269	71.270	28.504	1.313	28.019	70.200	97.270	106.502	97.270
105.0	99.916	93.896	67.089	27.282	1.374	26.504	66.230	92.138	101.017	92.138
107.5	95.058	89.098	63.463	26.040	1.172	25.393	62.523	87.866	95.906	87.866
110.0	90.886	84.694	60.594	25.151	1.323	24.262	59.675	83.846	91.744	83.846
112.5	87.017	80.846	58.129	24.545	1.576	23.383	56.897	80.108	87.654	80.108
115.0	83.270	77.442	55.927	24.151	1.949	22.918	54.614	76.816	84.169	76.816
117.5	79.896	74.695	53.806	23.848	2.050	22.393	52.473	73.341	80.462	73.341
120.0	76.977	71.755	52.059	23.646	2.656	22.282	50.564	70.573	77.240	70.573
122.5	74.088	69.109	50.099	23.423	3.101	22.019	48.514	67.695	74.270	67.695
125.0	71.483	66.493	48.534	23.434	3.909	21.706	46.534	65.008	71.169	65.008
127.5	68.503	63.766	46.847	23.090	4.495	21.525	44.817	62.160	68.452	62.160
130.0	65.867	61.220	45.514	22.989	5.293	21.312	43.039	59.251	65.755	59.251
132.5	63.230	58.645	44.382	22.949	5.970	21.343	41.746	56.816	62.907	56.816

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CANDELA TABULATION - (Cont.)

135.0	60.251	56.119	42.867	22.838	6.757	21.050	40.534	54.079	60.129	54.079
137.5	57.574	53.978	41.332	22.323	7.373	20.888	39.069	51.473	57.039	51.473
140.0	55.352	52.069	39.211	21.777	7.949	20.696	37.292	49.473	53.958	49.473
142.5	53.049	49.726	37.635	21.232	8.636	20.615	35.837	47.423	51.029	47.423
145.0	50.493	47.534	35.696	19.898	9.384	20.312	34.423	45.100	49.200	45.100
147.5	47.938	45.413	33.817	18.979	9.798	20.060	33.070	42.645	46.352	42.645
150.0	45.261	42.544	32.009	18.262	10.262	19.575	31.484	40.059	43.413	40.059
152.5	42.524	39.857	30.009	17.696	10.666	19.313	29.928	37.564	40.251	37.564
155.0	40.090	36.716	27.595	17.141	10.969	18.747	28.373	35.292	37.564	35.292
157.5	37.171	34.474	25.090	16.868	11.585	18.212	26.656	32.898	35.292	32.898
160.0	34.847	32.039	23.110	16.555	12.050	17.838	25.141	30.474	32.383	30.474
162.5	31.948	29.201	21.242	16.323	12.575	17.444	23.585	27.898	30.252	27.898
165.0	29.201	25.868	19.979	15.979	12.676	16.747	21.848	25.737	27.242	25.737
167.5	26.252	23.171	18.838	15.999	13.636	16.141	20.222	23.383	25.029	23.383
170.0	22.646	20.989	17.878	15.818	13.969	15.676	18.908	20.878	22.545	20.878
172.5	19.989	18.969	16.858	15.292	14.272	15.343	17.494	18.908	20.211	18.908
175.0	17.706	17.353	16.030	15.191	14.656	14.757	16.080	17.030	18.262	17.030
177.5	15.858	15.767	15.080	14.888	14.899	14.474	14.818	15.292	15.898	15.292
180.0	14.141	14.141	14.141	14.141	14.141	14.141	14.141	14.141	14.141	14.141

Vert. Angles **Horizontal Angles**

	<u>225.0</u>	<u>247.5</u>	<u>270.0</u>	<u>292.5</u>	<u>315.0</u>	<u>337.5</u>	<u>360.0</u>
0.0	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984	3579.984
2.5	3576.732	3578.863	3581.823	3580.388	3579.570	3572.954	3568.278
5.0	3561.864	3566.399	3570.328	3569.399	3567.621	3562.399	3554.359
7.5	3538.228	3544.501	3549.925	3549.268	3547.298	3541.309	3530.238
10.0	3504.461	3512.017	3519.118	3518.501	3516.592	3511.380	3497.229
12.5	3461.241	3470.654	3478.119	3478.563	3477.351	3470.129	3453.736
15.0	3410.353	3420.818	3429.848	3430.787	3427.171	3420.797	3400.172
17.5	3346.699	3361.799	3372.415	3373.728	3368.264	3361.385	3337.891
20.0	3276.550	3293.893	3307.690	3307.337	3301.317	3291.963	3269.742
22.5	3197.845	3217.794	3231.955	3232.208	3225.067	3216.885	3190.330
25.0	3107.525	3129.938	3147.190	3146.301	3139.019	3131.453	3102.293
27.5	3011.296	3033.406	3050.951	3052.133	3044.365	3037.396	3009.427
30.0	2906.077	2928.561	2948.298	2948.197	2940.520	2937.642	2907.319
32.5	2790.980	2814.312	2835.685	2835.453	2831.019	2827.958	2795.687
35.0	2671.741	2692.498	2711.609	2715.023	2711.568	2712.780	2681.034
37.5	2547.129	2562.704	2579.623	2586.047	2586.108	2593.319	2557.048
40.0	2414.992	2424.911	2440.728	2448.183	2458.102	2464.485	2432.315
42.5	2280.936	2283.087	2296.440	2306.420	2321.389	2336.772	2301.975
45.0	2138.546	2136.779	2144.556	2158.142	2180.899	2199.120	2164.768
47.5	1997.864	1987.056	1990.965	2009.884	2038.893	2060.751	2026.651
50.0	1854.445	1834.465	1837.576	1857.778	1893.928	1920.069	1885.332
52.5	1712.762	1683.551	1678.733	1705.348	1750.549	1778.982	1742.953
55.0	1568.767	1532.192	1520.496	1552.303	1606.311	1636.038	1594.988
57.5	1428.469	1384.096	1366.188	1402.328	1462.235	1490.537	1449.882
60.0	1290.877	1239.364	1216.940	1257.908	1325.169	1350.067	1308.331
62.5	1154.952	1098.621	1072.319	1118.893	1186.870	1213.304	1167.406
65.0	1025.128	966.625	930.162	982.645	1054.107	1076.834	1037.471
67.5	893.112	833.478	796.227	846.073	920.223	942.070	900.365
70.0	772.692	715.795	672.352	725.441	797.358	819.589	783.914
72.5	661.090	598.970	555.447	613.455	685.473	708.462	675.301
75.0	557.770	490.459	444.905	503.277	578.789	604.788	576.446
77.5	461.530	392.078	343.756	401.734	479.530	508.448	483.964
80.0	374.392	303.162	252.840	310.545	389.462	421.734	401.744

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CANDELA TABULATION - (Cont.)

82.5	294.728	223.013	171.893	230.599	308.859	341.656	327.222
85.0	221.760	153.046	100.067	159.752	234.750	271.244	257.335
87.5	160.914	93.138	38.362	98.674	171.520	208.660	196.650
90.0	115.057	54.907	2.394	56.746	121.036	155.894	152.601
92.5	99.047	42.857	0.758	43.898	102.805	135.329	138.773
95.0	88.482	36.908	0.939	37.332	91.664	123.067	127.865
97.5	81.018	32.928	1.333	33.342	83.240	113.481	118.481
100.0	75.008	30.060	1.404	30.474	76.674	105.552	110.845
102.5	70.200	28.019	1.313	28.504	71.270	99.269	104.997
105.0	66.230	26.504	1.374	27.282	67.089	93.896	99.916
107.5	62.523	25.393	1.172	26.040	63.463	89.098	95.058
110.0	59.675	24.262	1.323	25.151	60.594	84.694	90.886
112.5	56.897	23.383	1.576	24.545	58.129	80.846	87.017
115.0	54.614	22.918	1.949	24.151	55.927	77.442	83.270
117.5	52.473	22.393	2.050	23.848	53.806	74.695	79.896
120.0	50.564	22.282	2.656	23.646	52.059	71.755	76.977
122.5	48.514	22.019	3.101	23.423	50.099	69.109	74.088
125.0	46.534	21.706	3.909	23.434	48.534	66.493	71.483
127.5	44.817	21.525	4.495	23.090	46.847	63.766	68.503
130.0	43.039	21.312	5.293	22.989	45.514	61.220	65.867
132.5	41.746	21.343	5.970	22.949	44.382	58.645	63.230
135.0	40.534	21.050	6.757	22.838	42.867	56.119	60.251
137.5	39.069	20.888	7.373	22.323	41.332	53.978	57.574
140.0	37.292	20.696	7.949	21.777	39.211	52.069	55.352
142.5	35.837	20.615	8.636	21.232	37.635	49.726	53.049
145.0	34.423	20.312	9.384	19.898	35.696	47.534	50.493
147.5	33.070	20.060	9.798	18.979	33.817	45.413	47.938
150.0	31.484	19.575	10.262	18.262	32.009	42.544	45.261
152.5	29.928	19.313	10.666	17.696	30.009	39.857	42.524
155.0	28.373	18.747	10.969	17.141	27.595	36.716	40.090
157.5	26.656	18.212	11.585	16.868	25.090	34.474	37.171
160.0	25.141	17.838	12.050	16.555	23.110	32.039	34.847
162.5	23.585	17.444	12.575	16.323	21.242	29.201	31.948
165.0	21.848	16.747	12.676	15.979	19.979	25.868	29.201
167.5	20.222	16.141	13.636	15.999	18.838	23.171	26.252
170.0	18.908	15.676	13.969	15.818	17.878	20.989	22.646
172.5	17.494	15.343	14.272	15.292	16.858	18.969	19.989
175.0	16.080	14.757	14.656	15.191	16.030	17.353	17.706
177.5	14.818	14.474	14.899	14.888	15.080	15.767	15.858
180.0	14.141	14.141	14.141	14.141	14.141	14.141	14.141

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1301.93	N.A.	13.50
0-30	2740.36	N.A.	28.50
0-40	4424.44	N.A.	45.90
0-60	7500.13	N.A.	77.90
0-80	9086.6	N.A.	94.30
0-90	9321.62	N.A.	96.80
10-90	8983.19	N.A.	93.30
20-40	3122.51	N.A.	32.40
20-50	4787.95	N.A.	49.70
40-70	4082.59	N.A.	42.40
60-80	1586.46	N.A.	16.50
70-80	579.56	N.A.	6.00
80-90	235.03	N.A.	2.40
90-110	150.68	N.A.	1.60
90-120	200.17	N.A.	2.10
90-130	239.13	N.A.	2.50
90-150	289.26	N.A.	3.00
90-180	309.37	N.A.	3.20
110-180	158.69	N.A.	1.60
0-180	9631.00	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	338.43
10-20	963.50
20-30	1438.43
30-40	1684.08
40-50	1665.44
50-60	1410.25
60-70	1006.9
70-80	579.56
80-90	235.03
90-100	87.49
100-110	63.19
110-120	49.49
120-130	38.96
130-140	29.51
140-150	20.62
150-160	12.47
160-170	6.03
170-180	1.60

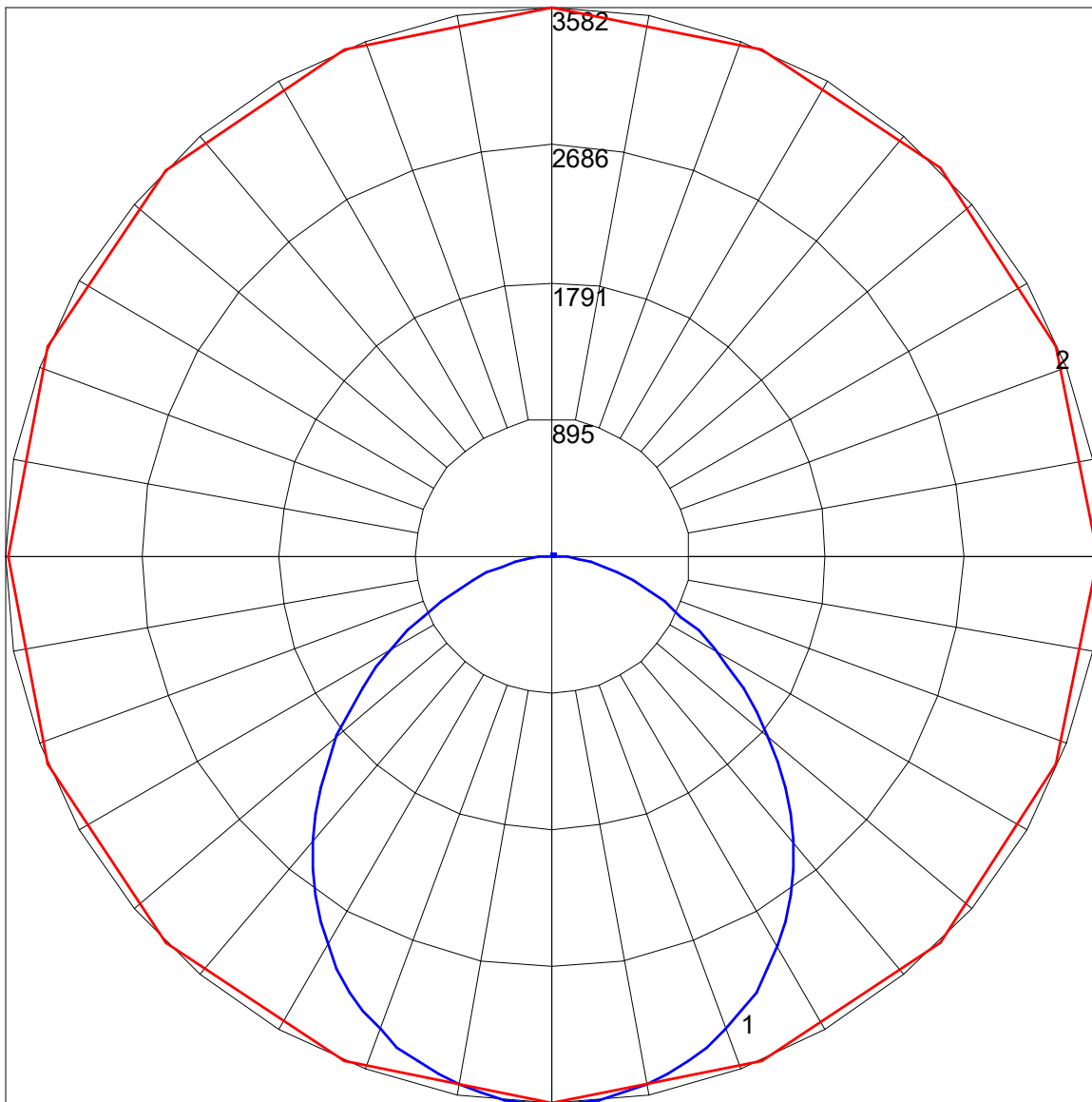
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	97
1	108	103	99	95	105	101	97	93	96	93	90	91	89	87	87	85	83	81
2	99	90	84	78	96	88	82	77	84	79	75	81	76	73	77	74	70	68
3	90	80	72	65	87	78	71	65	75	68	63	71	66	62	68	64	60	58
4	83	71	62	56	80	69	61	55	66	60	54	64	58	53	61	56	52	50
5	76	64	55	48	74	62	54	48	60	53	47	57	51	46	55	50	45	43
6	70	57	49	42	68	56	48	42	54	47	41	52	46	41	50	45	40	38
7	65	52	43	37	63	51	43	37	49	42	37	48	41	36	46	40	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	37	32	42	36	32	30
9	57	44	36	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27
10	53	40	33	27	52	40	32	27	39	32	27	37	31	27	36	31	26	25

POLAR GRAPH



Maximum Candela = 3581.823 Located At Horizontal Angle = 90, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)