



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HES-14-L30-835-A-DIM-UNV.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST]GEN FROM ORIGINAL TEST
[TESTLAB]Intertek
[ISSUE DATE] 03/18/2019
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.
[LUMCAT]HES-14-L30-835-A-DIM-UNV
[LUMINAIRE]1X4 SURFACE MOUNT LED
[MORE] WITH CENTER FROSTED LENS
[LAMP]LED
[LAMPCAT] HLM 80 CRI 3500K CCT
[_SEARCH_APPLICATION] INDOOR
[_SEARCH_SOURCETYPE] LED
[_SEARCH_MOUNTING] SURFACE

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3112
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	26.7
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.22
Spacing Criterion (Diagonal)	1.32
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	0.92 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3216	3251	3197
55	2724	2866	2625
65	2157	2387	1630
75	1654	1638	855
85	1159	567	267

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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	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309
2.5	1282.026	1287.765	1300.440	1316.542	1329.535	1316.223	1298.766	1286.251	1280.591	1286.251
5.0	1278.120	1284.497	1299.085	1315.266	1327.542	1312.875	1296.215	1282.265	1275.330	1282.265
7.5	1271.185	1278.837	1293.744	1308.252	1318.535	1304.027	1289.678	1275.729	1267.757	1275.729
10.0	1262.257	1270.468	1283.620	1294.700	1302.592	1288.642	1277.642	1266.083	1256.677	1266.083
12.5	1250.460	1258.590	1267.040	1275.808	1283.222	1268.794	1260.264	1252.134	1242.409	1252.134
15.0	1234.358	1243.285	1247.829	1256.358	1261.699	1247.510	1238.503	1234.597	1224.553	1234.597
17.5	1214.589	1223.596	1226.067	1232.205	1234.995	1220.966	1215.705	1213.632	1204.306	1213.632
20.0	1191.711	1200.161	1201.436	1202.711	1204.226	1189.957	1189.718	1189.080	1180.711	1189.080
22.5	1166.522	1172.978	1171.783	1170.667	1172.899	1156.876	1158.550	1160.224	1152.970	1160.224
25.0	1137.347	1142.369	1137.745	1139.419	1143.006	1125.549	1123.556	1127.781	1122.520	1127.781
27.5	1103.469	1108.411	1101.157	1106.657	1106.737	1091.273	1086.251	1092.229	1088.323	1092.229
30.0	1065.047	1071.265	1063.692	1067.518	1066.243	1051.097	1048.307	1053.488	1049.662	1053.488
32.5	1022.400	1029.017	1024.792	1024.632	1020.168	1007.653	1008.291	1010.523	1006.219	1010.523
35.0	976.087	982.703	980.710	977.442	971.145	959.826	962.934	963.174	959.028	963.174
37.5	927.063	933.122	932.404	927.382	921.244	909.766	913.672	912.556	909.527	912.556
40.0	874.612	880.192	880.910	876.047	869.351	858.749	861.699	858.909	856.278	858.909
42.5	819.371	825.509	826.705	823.676	814.987	806.139	807.494	803.986	802.153	803.986
45.0	762.536	769.232	770.985	768.594	758.072	751.854	751.695	748.267	744.839	748.267
47.5	704.026	712.635	714.947	713.114	699.562	695.019	694.779	689.837	684.098	689.837
50.0	645.915	655.640	660.184	657.394	641.850	638.502	638.741	630.451	623.835	630.451
52.5	584.775	596.892	605.740	599.921	576.087	581.188	585.015	571.782	563.811	571.782
55.0	524.034	539.339	551.376	537.266	504.983	517.179	531.686	514.468	503.787	514.468
57.5	465.285	483.619	498.606	470.786	435.712	451.336	479.634	459.626	445.198	459.626
60.0	409.167	430.291	446.872	406.298	362.137	385.253	427.661	407.334	389.080	407.334
62.5	355.839	379.514	391.870	337.665	293.105	318.294	372.659	358.629	336.549	358.629
65.0	305.700	332.244	338.302	272.858	231.009	255.720	321.005	313.193	287.764	313.193
67.5	258.988	288.402	285.772	214.667	177.760	199.920	268.553	271.184	243.284	271.184
70.0	216.660	247.509	234.436	164.847	133.838	151.694	218.015	231.726	202.392	231.726
72.5	178.398	209.247	186.529	122.838	99.482	111.917	171.303	194.659	165.405	194.659
75.0	143.563	171.224	142.208	89.040	74.213	80.989	128.657	157.673	131.845	157.673
77.5	111.758	135.034	101.873	63.292	56.915	60.183	90.554	123.236	101.953	123.236
80.0	82.822	100.757	65.923	45.197	40.016	42.806	59.546	90.395	75.090	90.395
82.5	55.480	67.995	37.864	26.784	21.124	23.994	33.878	60.741	52.292	60.741
85.0	33.878	36.269	16.580	9.805	7.812	8.370	13.790	31.327	31.407	31.327
87.5	16.182	10.682	4.384	3.587	2.870	3.029	3.747	7.732	14.667	7.732
90.0	2.152	0.239	0.000	0.000	0.000	0.000	0.000	0.000	1.196	0.000
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309	1303.309
2.5	1298.766	1316.223	1329.535	1316.542	1300.440	1287.765	1282.026
5.0	1296.215	1312.875	1327.542	1315.266	1299.085	1284.497	1278.120
7.5	1289.678	1304.027	1318.535	1308.252	1293.744	1278.837	1271.185
10.0	1277.642	1288.642	1302.592	1294.700	1283.620	1270.468	1262.257
12.5	1260.264	1268.794	1283.222	1275.808	1267.040	1258.590	1250.460
15.0	1238.503	1247.510	1261.699	1256.358	1247.829	1243.285	1234.358
17.5	1215.705	1220.966	1234.995	1232.205	1226.067	1223.596	1214.589
20.0	1189.718	1189.957	1204.226	1202.711	1201.436	1200.161	1191.711
22.5	1158.550	1156.876	1172.899	1170.667	1171.783	1172.978	1166.522
25.0	1123.556	1125.549	1143.006	1139.419	1137.745	1142.369	1137.347
27.5	1086.251	1091.273	1106.737	1106.657	1101.157	1108.411	1103.469
30.0	1048.307	1051.097	1066.243	1067.518	1063.692	1071.265	1065.047
32.5	1008.291	1007.653	1020.168	1024.632	1024.792	1029.017	1022.400
35.0	962.934	959.826	971.145	977.442	980.710	982.703	976.087
37.5	913.672	909.766	921.244	927.382	932.404	933.122	927.063
40.0	861.699	858.749	869.351	876.047	880.910	880.192	874.612
42.5	807.494	806.139	814.987	823.676	826.705	825.509	819.371
45.0	751.695	751.854	758.072	768.594	770.985	769.232	762.536
47.5	694.779	695.019	699.562	713.114	714.947	712.635	704.026
50.0	638.741	638.502	641.850	657.394	660.184	655.640	645.915
52.5	585.015	581.188	576.087	599.921	605.740	596.892	584.775
55.0	531.686	517.179	504.983	537.266	551.376	539.339	524.034
57.5	479.634	451.336	435.712	470.786	498.606	483.619	465.285
60.0	427.661	385.253	362.137	406.298	446.872	430.291	409.167
62.5	372.659	318.294	293.105	337.665	391.870	379.514	355.839
65.0	321.005	255.720	231.009	272.858	338.302	332.244	305.700
67.5	268.553	199.920	177.760	214.667	285.772	288.402	258.988
70.0	218.015	151.694	133.838	164.847	234.436	247.509	216.660
72.5	171.303	111.917	99.482	122.838	186.529	209.247	178.398
75.0	128.657	80.989	74.213	89.040	142.208	171.224	143.563
77.5	90.554	60.183	56.915	63.292	101.873	135.034	111.758
80.0	59.546	42.806	40.016	45.197	65.923	100.757	82.822

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CANDELA TABULATION - (Cont.)

82.5	33.878	23.994	21.124	26.784	37.864	67.995	55.480
85.0	13.790	8.370	7.812	9.805	16.580	36.269	33.878
87.5	3.747	3.029	2.870	3.587	4.384	10.682	16.182
90.0	0.000	0.000	0.000	0.000	0.000	0.239	2.152
92.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
135.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
172.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000
177.5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	474.34	N.A.	15.20
0-30	996.17	N.A.	32.00
0-40	1602.17	N.A.	51.50
0-60	2657.21	N.A.	85.40
0-80	3085.17	N.A.	99.10
0-90	3112.25	N.A.	100.00
10-90	2988.83	N.A.	96.00
20-40	1127.83	N.A.	36.20
20-50	1712.58	N.A.	55.00
40-70	1349.78	N.A.	43.40
60-80	427.96	N.A.	13.80
70-80	133.21	N.A.	4.30
80-90	27.09	N.A.	0.90
90-110	0.03	N.A.	0.00
90-120	0.03	N.A.	0.00
90-130	0.03	N.A.	0.00
90-150	0.03	N.A.	0.00
90-180	0.03	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3112.28	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	123.43
10-20	350.91
20-30	521.83
30-40	606.00
40-50	584.75
50-60	470.29
60-70	294.74
70-80	133.21
80-90	27.09
90-100	0.03
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

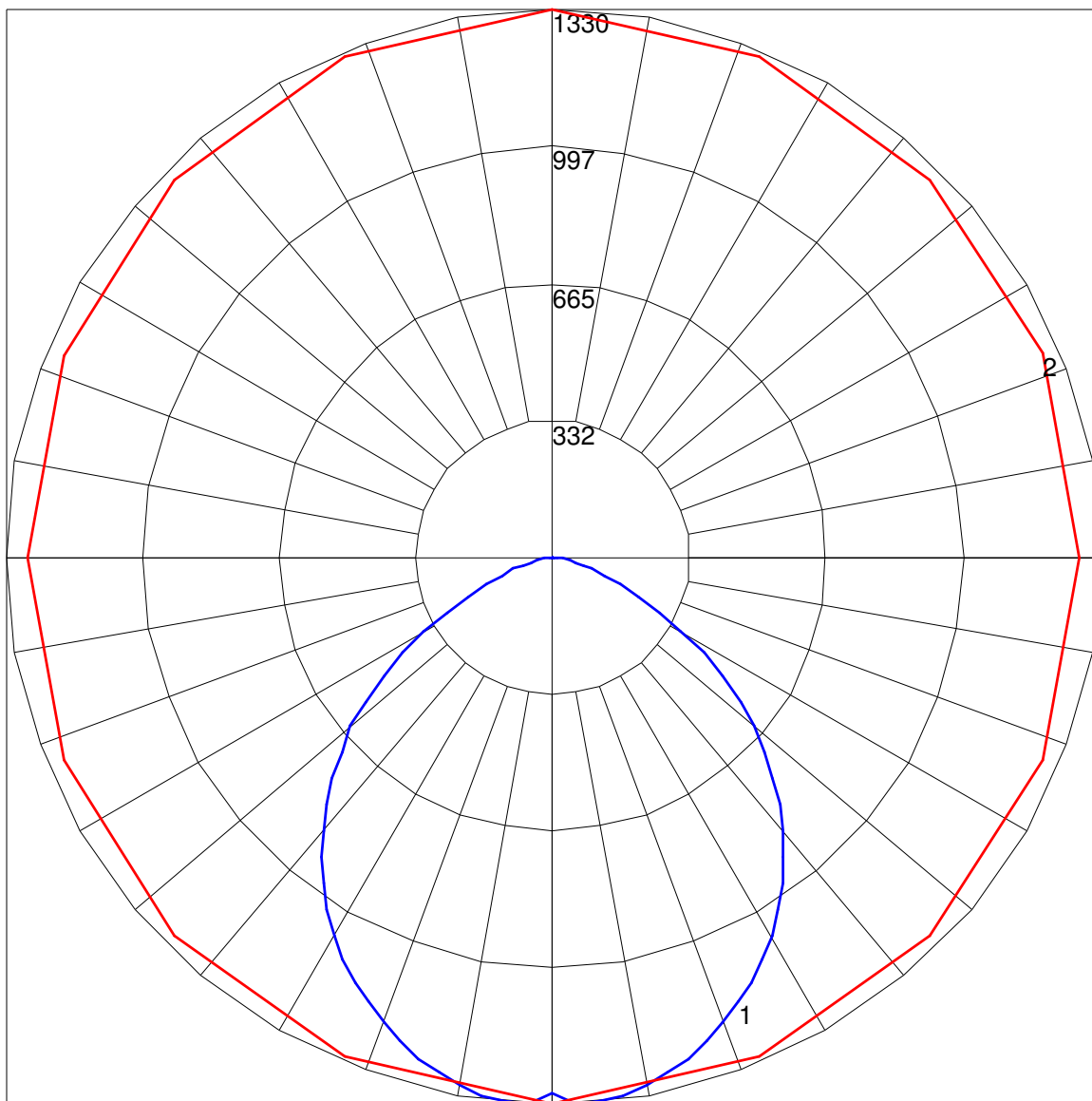
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	78	72	67	76	70	66	73	69	65	63
4	85	74	66	59	83	73	65	59	70	63	58	68	62	57	66	61	57	55
5	79	66	58	52	76	65	57	51	63	56	51	61	55	50	59	54	50	48
6	73	60	52	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	50	44	39	37
8	63	50	42	36	61	49	42	36	48	41	36	47	40	36	46	40	35	34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28

POLAR GRAPH



Maximum Candela = 1329.535 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.)