



IES INDOOR REPORT
PHOTOMETRIC FILENAME : HES-14-L54-835-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-L54-835-A-DIM-UNV
[LUMINAIRE]1X4 SURFACE MOUNT LUMINAIRE
[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	5441
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	121
Total Luminaire Watts	44.8
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	5622	5684	5589
55	4763	5012	4590
65	3771	4173	2850
75	2892	2865	1495
85	2027	992	467

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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	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698
2.5	2241.486	2251.521	2273.681	2301.833	2324.551	2301.276	2270.754	2248.873	2238.978	2248.873
5.0	2234.657	2245.807	2271.311	2299.603	2321.066	2295.422	2266.294	2241.904	2229.779	2241.904
7.5	2222.532	2235.911	2261.974	2287.339	2305.318	2279.952	2254.866	2230.476	2216.539	2230.476
10.0	2206.922	2221.278	2244.274	2263.646	2277.444	2253.054	2233.821	2213.612	2197.167	2213.612
12.5	2186.296	2200.511	2215.285	2230.615	2243.577	2218.351	2203.438	2189.222	2172.219	2189.222
15.0	2158.143	2173.752	2181.696	2196.609	2205.947	2181.139	2165.390	2158.561	2141.000	2158.561
17.5	2123.579	2139.328	2143.649	2154.380	2159.258	2134.729	2125.530	2121.907	2105.601	2121.907
20.0	2083.580	2098.353	2100.583	2102.813	2105.461	2080.514	2080.096	2078.981	2064.347	2078.981
22.5	2039.539	2050.828	2048.738	2046.786	2050.689	2022.675	2025.602	2028.529	2015.846	2028.529
25.0	1988.530	1997.310	1989.227	1992.153	1998.425	1967.903	1964.419	1971.805	1962.607	1971.805
27.5	1929.298	1937.939	1925.256	1934.872	1935.012	1907.974	1899.194	1909.646	1902.817	1909.646
30.0	1862.121	1872.992	1859.752	1866.442	1864.212	1837.732	1832.854	1841.913	1835.223	1841.913
32.5	1787.558	1799.126	1791.739	1791.461	1783.656	1761.775	1762.890	1766.792	1759.266	1766.792
35.0	1706.584	1718.152	1714.668	1708.954	1697.944	1678.153	1683.588	1684.007	1676.759	1684.007
37.5	1620.872	1631.464	1630.210	1621.429	1610.698	1590.629	1597.458	1595.507	1590.211	1595.507
40.0	1529.167	1538.922	1540.177	1531.675	1519.968	1501.432	1506.589	1501.711	1497.112	1501.711
42.5	1432.583	1443.315	1445.405	1440.109	1424.918	1409.448	1411.817	1405.685	1402.479	1405.685
45.0	1333.213	1344.920	1347.986	1343.805	1325.408	1314.537	1314.258	1308.265	1302.272	1308.265
47.5	1230.915	1245.967	1250.009	1246.803	1223.110	1215.166	1214.748	1206.107	1196.073	1206.107
50.0	1129.314	1146.317	1154.262	1149.384	1122.206	1116.353	1116.771	1102.277	1090.709	1102.277
52.5	1022.418	1043.602	1059.072	1048.898	1007.226	1016.146	1022.836	999.700	985.763	999.700
55.0	916.218	942.977	964.022	939.353	882.908	904.232	929.597	899.493	880.818	899.493
57.5	813.502	845.557	871.759	823.119	761.796	789.112	838.589	803.607	778.381	803.607
60.0	715.386	752.319	781.308	710.368	633.157	673.575	747.720	712.180	680.265	712.180
62.5	622.147	663.540	685.142	590.371	512.463	556.504	651.554	627.025	588.420	627.025
65.0	534.484	580.894	591.486	477.063	403.894	447.099	561.243	547.584	503.125	547.584
67.5	452.813	504.240	499.641	375.323	310.795	349.540	469.537	474.136	425.357	474.136
70.0	378.807	432.744	409.887	288.217	234.002	265.221	381.177	405.148	353.860	405.148
72.5	311.910	365.846	326.126	214.769	173.934	195.675	299.506	340.341	289.193	340.341
75.0	251.005	299.367	248.636	155.676	129.753	141.600	224.943	275.674	230.518	275.674
77.5	195.397	236.093	178.115	110.660	99.510	105.224	158.324	215.466	178.254	215.466
80.0	144.805	176.164	115.259	79.023	69.964	74.842	104.109	158.045	131.286	158.045
82.5	97.001	118.883	66.201	46.828	36.933	41.950	59.232	106.200	91.427	106.200
85.0	59.232	63.413	28.989	17.142	13.658	14.634	24.111	54.772	54.912	54.772
87.5	28.292	18.676	7.665	6.272	5.017	5.296	6.550	13.519	25.644	13.519
90.0	3.763	0.418	0.000	0.000	0.000	0.000	0.000	0.000	2.091	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	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698	2278.698
2.5	2270.754	2301.276	2324.551	2301.833	2273.681	2251.521	2241.486
5.0	2266.294	2295.422	2321.066	2299.603	2271.311	2245.807	2234.657
7.5	2254.866	2279.952	2305.318	2287.339	2261.974	2235.911	2222.532
10.0	2233.821	2253.054	2277.444	2263.646	2244.274	2221.278	2206.922
12.5	2203.438	2218.351	2243.577	2230.615	2215.285	2200.511	2186.296
15.0	2165.390	2181.139	2205.947	2196.609	2181.696	2173.752	2158.143
17.5	2125.530	2134.729	2159.258	2154.380	2143.649	2139.328	2123.579
20.0	2080.096	2080.514	2105.461	2102.813	2100.583	2098.353	2083.580
22.5	2025.602	2022.675	2050.689	2046.786	2048.738	2050.828	2039.539
25.0	1964.419	1967.903	1998.425	1992.153	1989.227	1997.310	1988.530
27.5	1899.194	1907.974	1935.012	1934.872	1925.256	1937.939	1929.298
30.0	1832.854	1837.732	1864.212	1866.442	1859.752	1872.992	1862.121
32.5	1762.890	1761.775	1783.656	1791.461	1791.739	1799.126	1787.558
35.0	1683.588	1678.153	1697.944	1708.954	1714.668	1718.152	1706.584
37.5	1597.458	1590.629	1610.698	1621.429	1630.210	1631.464	1620.872
40.0	1506.589	1501.432	1519.968	1531.675	1540.177	1538.922	1529.167
42.5	1411.817	1409.448	1424.918	1440.109	1445.405	1443.315	1432.583
45.0	1314.258	1314.537	1325.408	1343.805	1347.986	1344.920	1333.213
47.5	1214.748	1215.166	1223.110	1246.803	1250.009	1245.967	1230.915
50.0	1116.771	1116.353	1122.206	1149.384	1154.262	1146.317	1129.314
52.5	1022.836	1016.146	1007.226	1048.898	1059.072	1043.602	1022.418
55.0	929.597	904.232	882.908	939.353	964.022	942.977	916.218
57.5	838.589	789.112	761.796	823.119	871.759	845.557	813.502
60.0	747.720	673.575	633.157	710.368	781.308	752.319	715.386
62.5	651.554	556.504	512.463	590.371	685.142	663.540	622.147
65.0	561.243	447.099	403.894	477.063	591.486	580.894	534.484
67.5	469.537	349.540	310.795	375.323	499.641	504.240	452.813
70.0	381.177	265.221	234.002	288.217	409.887	432.744	378.807
72.5	299.506	195.675	173.934	214.769	326.126	365.846	311.910
75.0	224.943	141.600	129.753	155.676	248.636	299.367	251.005
77.5	158.324	105.224	99.510	110.660	178.115	236.093	195.397
80.0	104.109	74.842	69.964	79.023	115.259	176.164	144.805

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CANDELA TABULATION - (Cont.)

82.5	59.232	41.950	36.933	46.828	66.201	118.883	97.001
85.0	24.111	14.634	13.658	17.142	28.989	63.413	59.232
87.5	6.550	5.296	5.017	6.272	7.665	18.676	28.292
90.0	0.000	0.000	0.000	0.000	0.000	0.418	3.763
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	829.33	N.A.	15.20
0-30	1741.7	N.A.	32.00
0-40	2801.22	N.A.	51.50
0-60	4645.85	N.A.	85.40
0-80	5394.08	N.A.	99.10
0-90	5441.44	N.A.	100.00
10-90	5225.64	N.A.	96.00
20-40	1971.89	N.A.	36.20
20-50	2994.26	N.A.	55.00
40-70	2359.96	N.A.	43.40
60-80	748.24	N.A.	13.80
70-80	232.91	N.A.	4.30
80-90	47.36	N.A.	0.90
90-110	0.06	N.A.	0.00
90-120	0.06	N.A.	0.00
90-130	0.06	N.A.	0.00
90-150	0.06	N.A.	0.00
90-180	0.06	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	5441.5	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	215.80
10-20	613.53
20-30	912.37
30-40	1059.52
40-50	1022.37
50-60	822.25
60-70	515.33
70-80	232.91
80-90	47.36
90-100	0.06
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

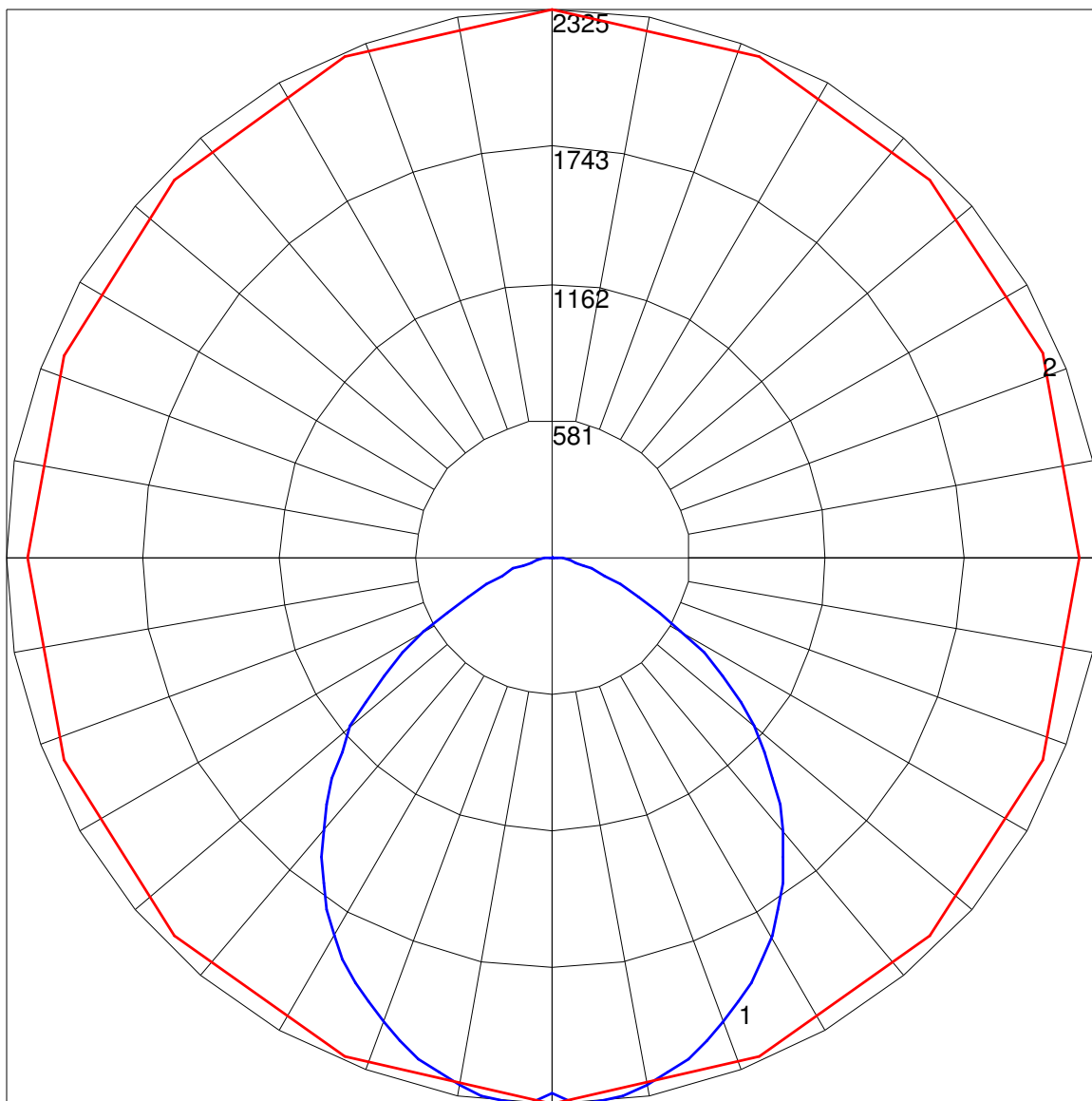
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	92	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 = 2324.551 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.)