



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-AR14-L38-830-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]HETG-AR14-L38-830-A-DIM-UNV
 [LUMINAIRE]1X4 RECESSED GRID LUMINAIRE
 [MORE] WITH FROSTED ACRYLIC LENS
 [LAMP]LED
 [LAMPCAT] HLM 80 CRI 3000K CCT
 [_SEARCH_APPLICATION] INDOOR
 [_SEARCH_SOURCETYPE] LED
 [_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3849
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	130
Total Luminaire Watts	29.7
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	3977	4021	3954
55	3370	3545	3247
65	2668	2952	2016
75	2046	2026	1057
85	1434	702	331

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L38-830-A-DIM-UNV.IES

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	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966
2.5	1585.642	1592.741	1608.417	1628.332	1644.402	1627.938	1606.346	1590.867	1583.867	1590.867
5.0	1580.811	1588.698	1606.741	1626.755	1641.938	1623.797	1603.191	1585.938	1577.360	1585.938
7.5	1572.234	1581.698	1600.135	1618.079	1630.797	1612.853	1595.107	1577.853	1567.994	1577.853
10.0	1561.192	1571.346	1587.614	1601.318	1611.079	1593.825	1580.220	1565.924	1554.290	1565.924
12.5	1546.600	1556.656	1567.107	1577.952	1587.121	1569.276	1558.727	1548.670	1536.642	1548.670
15.0	1526.685	1537.727	1543.346	1553.896	1560.501	1542.952	1531.811	1526.980	1514.558	1526.980
17.5	1502.234	1513.375	1516.431	1524.023	1527.473	1510.121	1503.614	1501.051	1489.516	1501.051
20.0	1473.938	1484.389	1485.966	1487.544	1489.417	1471.769	1471.474	1470.685	1460.333	1470.685
22.5	1442.783	1450.769	1449.291	1447.910	1450.671	1430.854	1432.924	1434.995	1426.023	1434.995
25.0	1406.699	1412.910	1407.192	1409.262	1413.699	1392.108	1389.643	1394.868	1388.361	1394.868
27.5	1364.798	1370.911	1361.939	1368.741	1368.840	1349.713	1343.502	1350.896	1346.066	1350.896
30.0	1317.277	1324.967	1315.601	1320.333	1318.756	1300.023	1296.573	1302.981	1298.249	1302.981
32.5	1264.531	1272.714	1267.488	1267.291	1261.770	1246.291	1247.080	1249.841	1244.517	1249.841
35.0	1207.249	1215.432	1212.967	1208.925	1201.136	1187.137	1190.982	1191.277	1186.151	1191.277
37.5	1146.616	1154.108	1153.221	1147.010	1139.418	1125.221	1130.052	1128.672	1124.925	1128.672
40.0	1081.743	1088.644	1089.531	1083.517	1075.236	1062.123	1065.771	1062.320	1059.067	1062.320
42.5	1013.419	1021.010	1022.489	1018.743	1007.996	997.053	998.729	994.391	992.123	994.391
45.0	943.123	951.405	953.574	950.616	937.602	929.912	929.715	925.476	921.236	925.476
47.5	870.757	881.405	884.264	881.997	865.236	859.617	859.321	853.208	846.110	853.208
50.0	798.884	810.913	816.532	813.082	793.856	789.715	790.011	779.758	771.575	779.758
52.5	723.265	738.251	749.194	741.997	712.519	718.828	723.561	707.195	697.335	707.195
55.0	648.138	667.068	681.955	664.505	624.575	639.660	657.603	636.308	623.096	636.308
57.5	575.477	598.153	616.688	582.280	538.899	558.223	593.223	568.477	550.632	568.477
60.0	506.069	532.195	552.702	502.519	447.900	476.491	528.942	503.801	481.224	503.801
62.5	440.111	469.393	484.674	417.632	362.520	393.675	460.914	443.562	416.252	443.562
65.0	378.097	410.928	418.421	337.478	285.717	316.281	397.027	387.365	355.914	387.365
67.5	320.323	356.703	353.449	265.506	219.858	247.267	332.154	335.407	300.900	335.407
70.0	267.971	306.126	289.957	203.887	165.535	187.619	269.647	286.605	250.323	286.605
72.5	220.647	258.802	230.703	151.929	123.042	138.422	211.872	240.760	204.577	240.760
75.0	177.563	211.774	175.887	110.126	91.788	100.169	159.126	195.013	163.070	195.013
77.5	138.225	167.013	126.000	78.281	70.394	74.436	112.000	152.422	126.098	152.422
80.0	102.436	124.619	81.535	55.901	49.493	52.943	73.648	111.802	92.873	111.802
82.5	68.619	84.098	46.831	33.127	26.127	29.676	41.901	75.126	64.676	75.126
85.0	41.901	44.859	20.507	12.127	9.662	10.352	17.056	38.746	38.845	38.746
87.5	20.014	13.211	5.423	4.437	3.549	3.746	4.634	9.563	18.141	9.563
90.0	2.662	0.296	0.000	0.000	0.000	0.000	0.000	0.000	1.479	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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L38-830-A-DIM-UNV.IES

CANDELA TABULATION - (Cont.)

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	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966	1611.966
2.5	1606.346	1627.938	1644.402	1628.332	1608.417	1592.741	1585.642
5.0	1603.191	1623.797	1641.938	1626.755	1606.741	1588.698	1580.811
7.5	1595.107	1612.853	1630.797	1618.079	1600.135	1581.698	1572.234
10.0	1580.220	1593.825	1611.079	1601.318	1587.614	1571.346	1561.192
12.5	1558.727	1569.276	1587.121	1577.952	1567.107	1556.656	1546.600
15.0	1531.811	1542.952	1560.501	1553.896	1543.346	1537.727	1526.685
17.5	1503.614	1510.121	1527.473	1524.023	1516.431	1513.375	1502.234
20.0	1471.474	1471.769	1489.417	1487.544	1485.966	1484.389	1473.938
22.5	1432.924	1430.854	1450.671	1447.910	1449.291	1450.769	1442.783
25.0	1389.643	1392.108	1413.699	1409.262	1407.192	1412.910	1406.699
27.5	1343.502	1349.713	1368.840	1368.741	1361.939	1370.911	1364.798
30.0	1296.573	1300.023	1318.756	1320.333	1315.601	1324.967	1317.277
32.5	1247.080	1246.291	1261.770	1267.291	1267.488	1272.714	1264.531
35.0	1190.982	1187.137	1201.136	1208.925	1212.967	1215.432	1207.249
37.5	1130.052	1125.221	1139.418	1147.010	1153.221	1154.108	1146.616
40.0	1065.771	1062.123	1075.236	1083.517	1089.531	1088.644	1081.743
42.5	998.729	997.053	1007.996	1018.743	1022.489	1021.010	1013.419
45.0	929.715	929.912	937.602	950.616	953.574	951.405	943.123
47.5	859.321	859.617	865.236	881.997	884.264	881.405	870.757
50.0	790.011	789.715	793.856	813.082	816.532	810.913	798.884
52.5	723.561	718.828	712.519	741.997	749.194	738.251	723.265
55.0	657.603	639.660	624.575	664.505	681.955	667.068	648.138
57.5	593.223	558.223	538.899	582.280	616.688	598.153	575.477
60.0	528.942	476.491	447.900	502.519	552.702	532.195	506.069
62.5	460.914	393.675	362.520	417.632	484.674	469.393	440.111
65.0	397.027	316.281	285.717	337.478	418.421	410.928	378.097
67.5	332.154	247.267	219.858	265.506	353.449	356.703	320.323
70.0	269.647	187.619	165.535	203.887	289.957	306.126	267.971
72.5	211.872	138.422	123.042	151.929	230.703	258.802	220.647
75.0	159.126	100.169	91.788	110.126	175.887	211.774	177.563
77.5	112.000	74.436	70.394	78.281	126.000	167.013	138.225
80.0	73.648	52.943	49.493	55.901	81.535	124.619	102.436

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L38-830-A-DIM-UNV.IES

CANDELA TABULATION - (Cont.)

82.5	41.901	29.676	26.127	33.127	46.831	84.098	68.619
85.0	17.056	10.352	9.662	12.127	20.507	44.859	41.901
87.5	4.634	3.746	3.549	4.437	5.423	13.211	20.014
90.0	0.000	0.000	0.000	0.000	0.000	0.296	2.662
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

IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L38-830-A-DIM-UNV.IES

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	586.67	N.A.	15.20
0-30	1232.09	N.A.	32.00
0-40	1981.6	N.A.	51.50
0-60	3286.5	N.A.	85.40
0-80	3815.81	N.A.	99.10
0-90	3849.31	N.A.	100.00
10-90	3696.66	N.A.	96.00
20-40	1394.93	N.A.	36.20
20-50	2118.16	N.A.	55.00
40-70	1669.45	N.A.	43.40
60-80	529.31	N.A.	13.80
70-80	164.76	N.A.	4.30
80-90	33.50	N.A.	0.90
90-110	0.04	N.A.	0.00
90-120	0.04	N.A.	0.00
90-130	0.04	N.A.	0.00
90-150	0.04	N.A.	0.00
90-180	0.04	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	3849.35	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	152.66
10-20	434.02
20-30	645.42
30-40	749.51
40-50	723.23
50-60	581.67
60-70	364.55
70-80	164.76
80-90	33.50
90-100	0.04
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

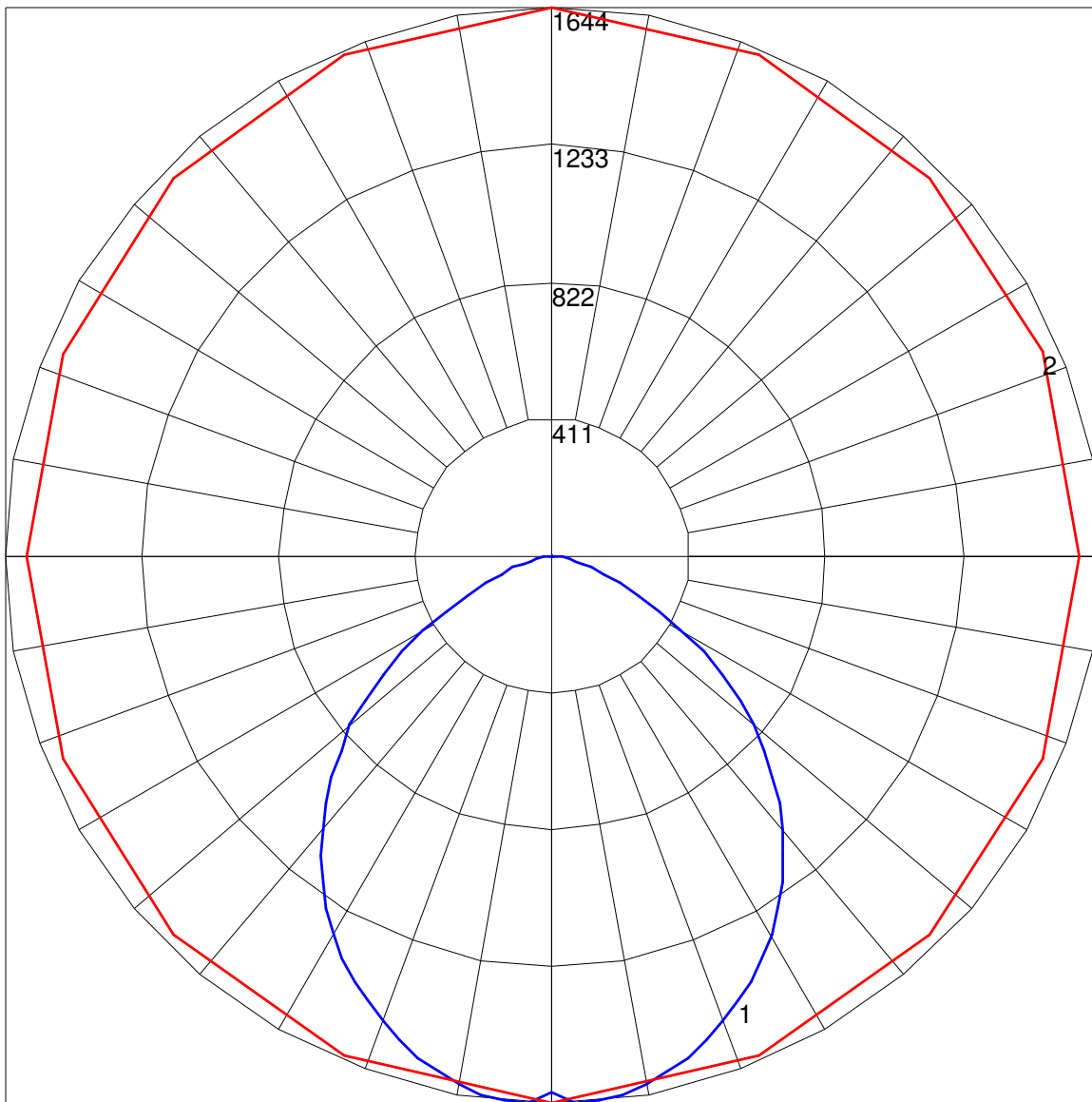
IES INDOOR REPORT
PHOTOMETRIC FILENAME : HETG-AR14-L38-830-A-DIM-UNV.IES

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 = 1644.402 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.)