



**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : HES-22-L38-835-A-DIM-UNV.IES**

**DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002  
[TEST]GEN FROM G100669206  
[TESTLAB]Intertek  
[ISSUE DATE] 03/18/2019  
[MANUFAC] WILLIAMS INDOOR  
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.  
[LUMCAT] HES-22-L38-835-A-DIM-UNV  
[LUMINAIRE] 2X2 SURFACE MOUNT LED 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	3901
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	126
Total Luminaire Watts	30.9
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.20
Spacing Criterion (Diagonal)	1.28
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.83 ft
Luminous Width (90-270)	1.96 ft
Luminous Height	0.00 ft

**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3841	3983	4119
55	3172	3470	3537
65	2484	2899	2375
75	1880	2000	1341
85	1169	641	319

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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>
0.0	1674.989	1674.989	1674.989	1674.989	1674.989
2.5	1679.373	1678.875	1675.288	1668.512	1664.028
5.0	1671.900	1671.800	1669.907	1660.042	1657.551
7.5	1660.242	1660.840	1656.655	1647.986	1645.694
10.0	1642.206	1643.502	1641.509	1634.634	1631.046
12.5	1621.182	1623.274	1622.975	1615.602	1613.210
15.0	1592.385	1598.164	1597.367	1591.787	1589.795
17.5	1559.005	1564.784	1566.080	1563.987	1560.799
20.0	1521.041	1526.123	1529.511	1526.123	1527.518
22.5	1475.106	1480.885	1486.465	1488.060	1485.070
25.0	1424.886	1430.865	1436.843	1438.438	1438.438
27.5	1371.378	1378.652	1385.129	1389.314	1388.517
30.0	1313.088	1322.055	1330.425	1336.902	1338.397
32.5	1253.800	1263.167	1272.234	1281.003	1286.483
35.0	1192.022	1201.289	1212.050	1223.509	1229.189
37.5	1124.963	1134.728	1146.784	1160.037	1167.909
40.0	1053.918	1066.074	1079.326	1096.864	1104.536
42.5	980.880	994.033	1010.075	1028.110	1038.473
45.0	905.949	920.995	939.329	960.553	971.414
47.5	829.722	844.868	867.586	890.205	903.358
50.0	747.517	769.837	797.538	820.655	832.911
52.5	678.067	696.401	729.582	752.699	759.076
55.0	606.822	626.352	663.917	679.063	676.672
57.5	537.969	558.795	601.043	604.331	590.182
60.0	471.309	493.927	538.966	521.628	501.401
62.5	408.335	431.751	474.099	441.515	413.117
65.0	350.143	374.456	408.633	363.495	334.798
67.5	296.536	321.147	343.866	292.749	264.052
70.0	247.611	272.921	282.187	229.975	203.370
72.5	203.171	227.284	225.491	176.467	155.044
75.0	162.317	182.645	172.680	130.133	115.784
77.5	124.653	138.603	124.154	92.966	84.098
80.0	90.774	98.646	81.906	62.376	56.099
82.5	60.682	62.077	45.935	34.676	28.896
85.0	33.978	29.893	18.633	13.751	9.267
87.5	11.160	7.075	3.786	2.491	1.096
90.0	0.000	0.000	0.000	0.000	0.000
92.5	0.000	0.000	0.000	0.000	0.000
95.0	0.000	0.000	0.000	0.000	0.000
97.5	0.000	0.000	0.000	0.000	0.000
100.0	0.000	0.000	0.000	0.000	0.000
102.5	0.000	0.000	0.000	0.000	0.000
105.0	0.000	0.000	0.000	0.000	0.000
107.5	0.000	0.000	0.000	0.000	0.000
110.0	0.000	0.000	0.000	0.000	0.000
112.5	0.000	0.000	0.000	0.000	0.000
115.0	0.000	0.000	0.000	0.000	0.000
117.5	0.000	0.000	0.000	0.000	0.000
120.0	0.000	0.000	0.000	0.000	0.000
122.5	0.000	0.000	0.000	0.000	0.000
125.0	0.000	0.000	0.000	0.000	0.000
127.5	0.000	0.000	0.000	0.000	0.000
130.0	0.000	0.000	0.000	0.000	0.000
132.5	0.000	0.000	0.000	0.000	0.000

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**CANDELA TABULATION - (Cont.)**

135.0	0.000	0.000	0.000	0.000	0.000
137.5	0.000	0.000	0.000	0.000	0.000
140.0	0.000	0.000	0.000	0.000	0.000
142.5	0.000	0.000	0.000	0.000	0.000
145.0	0.000	0.000	0.000	0.000	0.000
147.5	0.000	0.000	0.000	0.000	0.000
150.0	0.000	0.000	0.000	0.000	0.000
152.5	0.000	0.000	0.000	0.000	0.000
155.0	0.000	0.000	0.100	0.000	0.000
157.5	0.000	0.000	0.000	0.000	0.000
160.0	0.000	0.000	0.000	0.000	0.000
162.5	0.000	0.000	0.000	0.000	0.000
165.0	0.000	0.000	0.000	0.000	0.000
167.5	0.000	0.000	0.000	0.000	0.000
170.0	0.000	0.000	0.000	0.100	0.000
172.5	0.000	0.000	0.000	0.000	0.000
175.0	0.000	0.000	0.000	0.000	0.199
177.5	0.000	0.000	0.000	0.000	0.000
180.0	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	607.34	N.A.	15.60
0-30	1267.61	N.A.	32.50
0-40	2023.92	N.A.	51.90
0-60	3331.23	N.A.	85.40
0-80	3870.86	N.A.	99.20
0-90	3901.37	N.A.	100.00
10-90	3743.18	N.A.	95.90
20-40	1416.57	N.A.	36.30
20-50	2140.59	N.A.	54.90
40-70	1678.59	N.A.	43.00
60-80	539.63	N.A.	13.80
70-80	168.36	N.A.	4.30
80-90	30.51	N.A.	0.80
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	3901.38	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	158.19
10-20	449.15
20-30	660.27
30-40	756.30
40-50	724.01
50-60	583.30
60-70	371.27
70-80	168.36
80-90	30.51
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

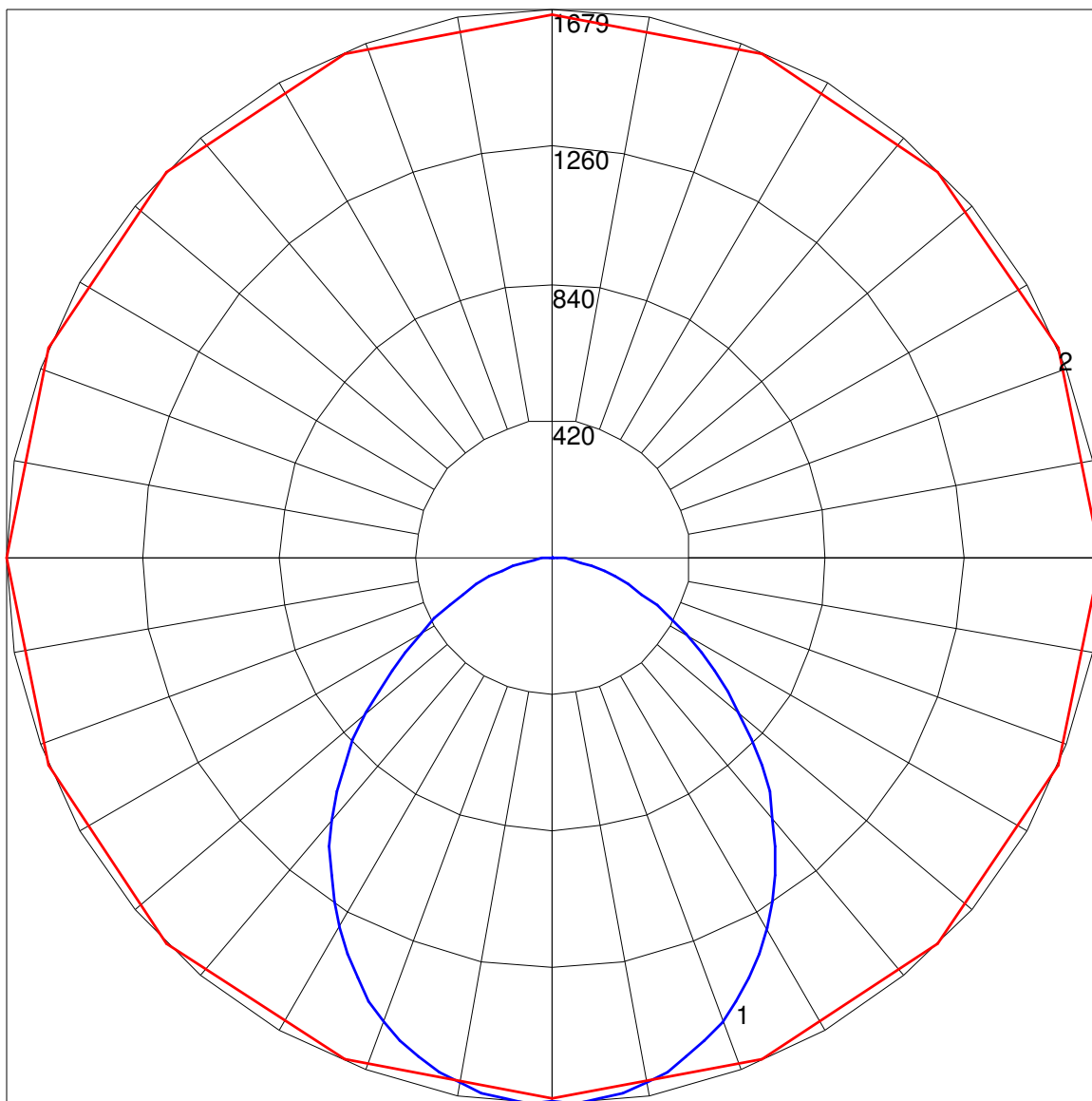
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	93	87	82	98	92	86	81	88	83	79	85	81	77	82	79	76	74
3	93	83	75	69	90	81	74	69	78	72	67	76	71	66	73	69	65	63
4	85	74	66	60	83	73	65	59	70	64	58	68	62	58	66	61	57	55
5	79	67	58	52	77	65	57	52	63	56	51	61	55	50	60	54	50	48
6	73	60	52	46	71	59	51	45	58	50	45	56	50	45	54	49	44	42
7	68	55	46	41	66	54	46	40	53	45	40	51	45	40	50	44	40	38
8	63	50	42	36	62	50	42	36	48	41	36	47	41	36	46	40	36	34
9	59	46	38	33	58	46	38	33	45	38	33	43	37	33	42	37	32	31
10	56	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	30	28

POLAR GRAPH



Maximum Candela = 1679.373 Located At Horizontal Angle = 0, Vertical Angle = 2.5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)