



IES INDOOR REPORT
PHOTOMETRIC FILENAME : AHTG-22-L40-835-A-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TESTLAB] Generated From Intertek
[ISSUEDATE] 17-NOV-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC. - CARTHAGE, MO.64836
[LUMINAIRE] 2X2' LED TROFFER
[MORE] FROSTED ACRYLIC DIFFUSER
[LUMCAT] AHT-22-L40-835-A-DIM-UNV
[LAMPCAT] HLM 80 CRI, 3500K CCT
[_SEARCH_SOURCE TYPE] LED
[_SEARCH_APPLICATION] INDOOR, DIRECT, OFFICE, EDUCATION
[_SEARCH_MOUNTING] RECESSED

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	4086
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	119
Total Luminaire Watts	34.2
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.18
Spacing Criterion (90-270)	1.16
Spacing Criterion (Diagonal)	1.26
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	2.00 ft
Luminous Width (90-270)	2.00 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3679	3676	3812
55	3054	3290	3411
65	2380	2738	2257
75	1769	1763	1310
85	1137	867	700

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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	1780.934	1780.934	1780.934	1780.934	1780.934
2.5	1779.832	1776.529	1775.004	1778.901	1781.018
5.0	1774.920	1770.685	1767.466	1768.482	1770.515
7.5	1764.163	1757.979	1753.575	1752.389	1750.102
10.0	1747.307	1740.192	1731.891	1728.757	1726.132
12.5	1724.438	1716.984	1706.057	1699.112	1693.606
15.0	1694.453	1686.491	1673.024	1663.283	1656.422
17.5	1658.625	1648.630	1633.722	1622.711	1614.834
20.0	1616.189	1605.517	1588.576	1576.634	1567.570
22.5	1567.909	1555.966	1538.518	1526.829	1518.274
25.0	1515.479	1501.503	1482.445	1472.281	1464.658
27.5	1459.491	1443.737	1424.594	1417.225	1411.635
30.0	1401.132	1384.700	1366.320	1360.814	1357.257
32.5	1339.046	1322.444	1305.673	1303.895	1301.523
35.0	1272.047	1256.631	1242.401	1245.874	1245.535
37.5	1200.559	1187.007	1176.334	1183.534	1185.990
40.0	1126.530	1114.587	1107.811	1119.923	1125.344
42.5	1048.266	1039.372	1037.678	1055.550	1065.460
45.0	967.545	961.701	966.783	990.838	1002.696
47.5	887.079	886.486	896.226	926.719	940.187
50.0	806.697	812.033	829.143	863.955	872.679
52.5	728.179	738.936	764.685	798.312	802.970
55.0	651.524	667.871	701.921	726.739	727.671
57.5	577.579	598.162	639.242	648.729	627.977
60.0	505.837	530.485	573.429	552.169	533.450
62.5	437.314	465.689	506.007	467.383	441.041
65.0	374.126	405.720	430.368	384.206	354.815
67.5	315.598	348.885	355.323	304.925	279.938
70.0	262.659	296.286	288.324	237.757	217.005
72.5	213.956	245.126	225.306	181.092	165.761
75.0	170.335	194.221	169.742	136.285	126.121
77.5	130.525	145.771	122.563	100.964	94.866
80.0	95.289	103.251	84.701	72.420	69.032
82.5	64.119	65.390	53.616	47.263	44.468
85.0	36.845	34.050	28.121	24.733	22.700
87.5	12.959	10.757	9.825	9.995	9.910
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	0.085	0.000	0.085
152.5	0.000	0.000	0.085	0.000	0.000
155.0	0.000	0.000	0.000	0.000	0.000
157.5	0.169	0.085	0.000	0.339	0.085
160.0	0.085	0.000	0.254	0.169	0.085
162.5	0.339	0.085	0.085	0.085	0.254
165.0	0.085	0.085	0.254	0.169	0.339
167.5	0.339	0.085	0.169	0.169	0.085
170.0	0.085	0.085	0.254	0.169	0.169
172.5	0.000	0.085	0.339	0.424	0.000
175.0	0.254	0.000	0.169	0.254	0.339
177.5	0.254	0.169	0.254	0.254	0.085
180.0	0.254	0.254	0.254	0.254	0.254

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	639.14	N.A.	15.60
0-30	1323.49	N.A.	32.40
0-40	2104.65	N.A.	51.50
0-60	3477.97	N.A.	85.10
0-80	4048.67	N.A.	99.10
0-90	4086.09	N.A.	100.00
10-90	3918.28	N.A.	95.90
20-40	1465.51	N.A.	35.90
20-50	2218.76	N.A.	54.30
40-70	1767.89	N.A.	43.30
60-80	570.70	N.A.	14.00
70-80	176.12	N.A.	4.30
80-90	37.42	N.A.	0.90
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	0.09	N.A.	0.00
110-180	0.09	N.A.	0.00
0-180	4086.18	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	167.81
10-20	471.33
20-30	684.34
30-40	781.17
40-50	753.24
50-60	620.07
60-70	394.58
70-80	176.12
80-90	37.42
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	0.03
160-170	0.04
170-180	0.02

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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	114	114	114	114	112	112	112	112	107	107	107	102	102	102	98	98	98	96
1	106	101	98	94	103	99	96	93	95	92	90	92	89	87	88	86	85	83
2	97	90	84	78	94	88	82	78	84	80	76	81	77	74	78	75	72	70
3	89	79	72	66	86	78	71	66	75	69	65	73	68	63	70	66	62	60
4	82	71	63	57	80	70	62	57	67	61	56	65	60	55	63	58	54	52
5	75	64	56	50	73	63	55	49	61	54	49	59	53	48	57	52	48	46
6	70	58	50	44	68	57	49	43	55	48	43	53	47	43	52	47	42	40
7	65	53	44	39	63	52	44	39	50	43	38	49	43	38	48	42	38	36
8	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	32
9	57	44	37	32	55	44	36	31	43	36	31	42	36	31	41	35	31	29
10	53	41	34	29	52	40	33	29	40	33	29	39	33	28	38	32	28	27

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UGR TABLE - CORRECTED

Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size UGR Viewed Crosswise

X=2H	Y=2H	15.7	17.3	16.1	17.6	17.9	16.3	17.8	16.6	18.1	18.4
	3H	17.1	18.5	17.5	18.8	19.1	17.1	18.5	17.5	18.8	19.2
	4H	17.5	18.8	17.9	19.2	19.5	17.4	18.7	17.8	19.0	19.4
	6H	17.8	19.0	18.2	19.4	19.8	17.5	18.7	17.9	19.0	19.4
	8H	17.9	19.0	18.3	19.4	19.8	17.5	18.6	17.9	19.0	19.4
	12H	17.9	19.0	18.3	19.4	19.8	17.5	18.6	17.9	19.0	19.4

UGR Viewed Endwise

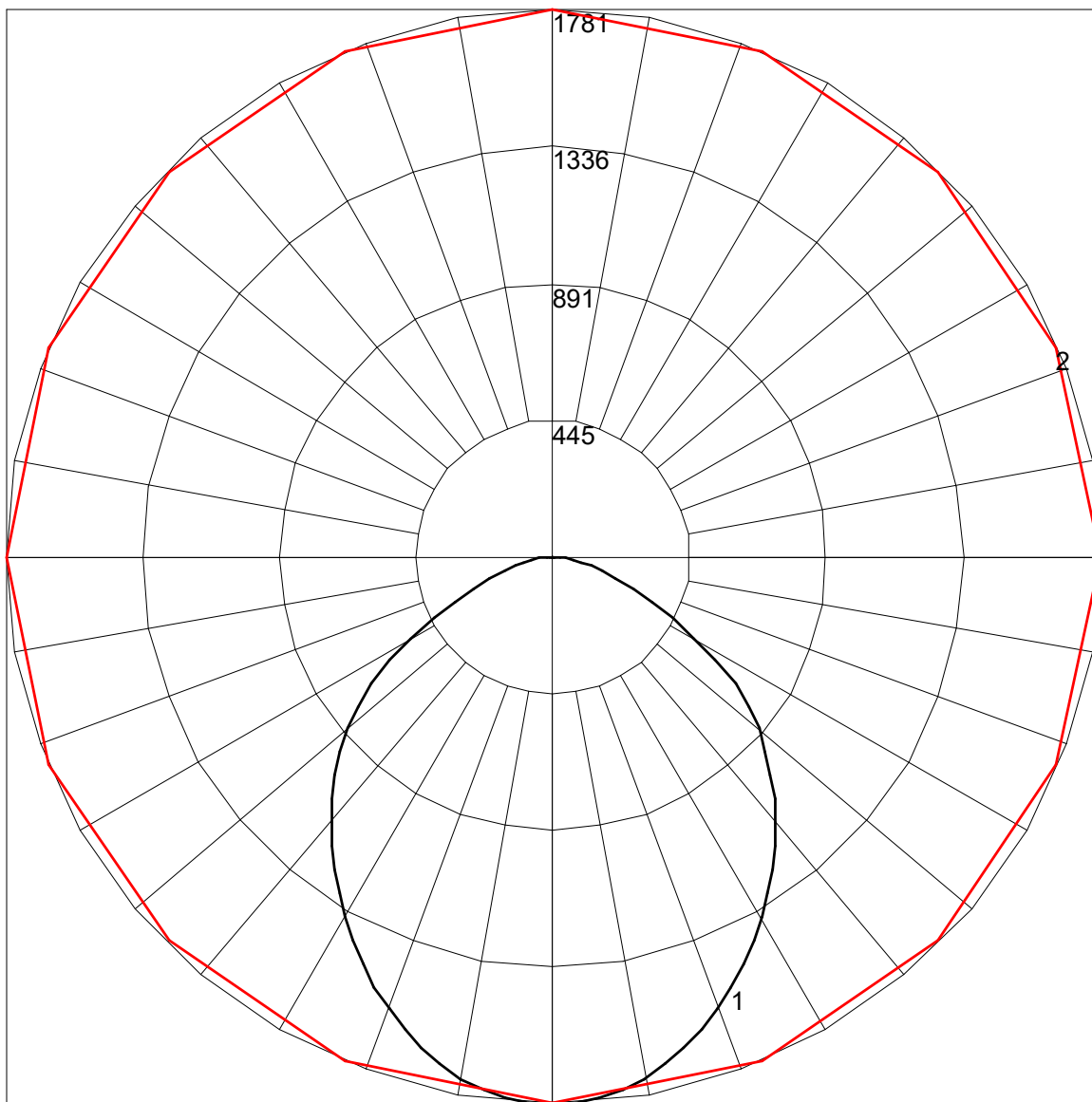
4H	2H	16.3	17.6	16.7	18.0	18.4	16.8	18.1	17.2	18.4	18.8
	3H	17.9	19.0	18.3	19.4	19.8	17.8	18.9	18.2	19.3	19.7
	4H	18.4	19.4	18.9	19.8	20.3	18.1	19.1	18.5	19.5	19.9
	6H	18.8	19.7	19.3	20.1	20.6	18.3	19.1	18.7	19.6	20.0
	8H	18.9	19.7	19.4	20.2	20.6	18.3	19.1	18.8	19.6	20.0
	12H	19.0	19.7	19.5	20.2	20.6	18.4	19.1	18.8	19.5	20.0

8H	4H	18.6	19.4	19.1	19.8	20.3	18.3	19.1	18.7	19.5	20.0
	6H	19.1	19.7	19.5	20.2	20.7	18.5	19.2	19.0	19.7	20.2
	8H	19.2	19.8	19.7	20.3	20.8	18.6	19.2	19.1	19.7	20.2
	12H	19.3	19.8	19.8	20.3	20.9	18.7	19.2	19.2	19.7	20.2

12H	4H	18.6	19.3	19.1	19.8	20.2	18.3	19.0	18.8	19.5	19.9
	6H	19.1	19.7	19.6	20.1	20.7	18.6	19.1	19.1	19.6	20.1
	8H	19.2	19.8	19.8	20.3	20.8	18.7	19.2	19.2	19.7	20.2

Maximum UGR = 20.9

POLAR GRAPH



Maximum Candela = 1781.018 Located At Horizontal Angle = 90, Vertical Angle = 2.5
1 - Vertical Plane Through Horizontal Angles (90 - 270)
2 - Horizontal Cone Through Vertical Angle (2.5) (Through Max. Cd.)