



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-S24-L76-835-A-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN from BALLABS TEST NO. 20210.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUE DATE] 31-JAN-2020

[MANUFAC] WILLIAMS INDOOR

[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO

[LUMINAIRE] 4-28 LED 22" ARRAYS DUAL APERTURE 2x4' RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED LENSES

[LUMCAT] HETG-S24-L76-835-A-DIM-UNV

[_SEARCH_SOURCE TYPE] LED

[_SEARCH_APPLICATION] Indoor, Architectural, Classroom, Commercial, Direct

[_SEARCH_MOUNTING] Recessed

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	7697
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	129
Total Luminaire Watts	59.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	3.92 ft
Luminous Width (90-270)	1.91 ft
Luminous Height	0.00 ft

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3608	3861	4018
55	3031	3517	3688
65	2358	3007	2553
75	1677	1953	1255
85	836	509	382

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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	3065.859	3065.859	3065.859	3065.859	3065.859
5	3049.358	3049.358	3036.157	3032.857	3037.257
10	2999.855	2998.755	2993.255	2989.955	2993.255
15	2922.851	2922.851	2932.752	2922.851	2928.352
20	2812.846	2815.046	2842.547	2828.247	2834.847
25	2665.438	2675.339	2710.540	2703.940	2719.341
30	2494.929	2522.431	2540.032	2568.633	2574.133
35	2298.019	2332.121	2345.322	2397.024	2400.324
40	2057.107	2097.809	2133.011	2177.013	2200.114
45	1771.092	1819.494	1895.398	1930.600	1972.402
50	1482.877	1533.479	1647.885	1696.288	1738.090
55	1206.763	1258.465	1400.373	1468.576	1468.576
60	943.849	992.251	1160.560	1213.363	1127.558
65	691.936	748.039	882.246	874.545	749.139
70	479.625	530.227	606.131	542.328	434.523
75	301.416	335.517	350.918	278.314	225.512
80	155.108	168.309	152.908	116.606	94.605
85	50.603	41.802	30.802	27.501	23.101
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1114.26	N.A.	14.50
0-30	2356.26	N.A.	30.60
0-40	3826.55	N.A.	49.70
0-60	6497.11	N.A.	84.40
0-80	7639.64	N.A.	99.30
0-90	7696.55	N.A.	100.00
10-90	7407.65	N.A.	96.20
20-40	2712.29	N.A.	35.20
20-50	4162.9	N.A.	54.10
40-70	3473.47	N.A.	45.10
60-80	1142.54	N.A.	14.80
70-80	339.62	N.A.	4.40
80-90	56.90	N.A.	0.70
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	7696.55	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	288.89
10-20	825.37
20-30	1242.00
30-40	1470.29
40-50	1450.62
50-60	1219.94
60-70	802.92
70-80	339.62
80-90	56.90
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	179	179	179	179	175	175	175	175	167	167	167	160	160	160	154	154	154	150
1	165	159	153	148	161	155	150	145	149	145	141	143	140	136	138	135	132	129
2	151	140	130	122	147	137	128	121	132	124	118	127	121	115	122	117	113	110
3	139	124	112	103	135	121	111	102	117	108	100	113	105	98	109	102	97	94
4	127	110	97	88	124	108	96	87	104	94	86	101	92	85	98	90	84	81
5	117	99	86	76	114	97	85	76	94	83	75	91	82	74	88	80	73	70
6	108	89	76	67	106	88	75	67	85	74	66	83	73	65	80	72	65	62
7	101	81	68	59	98	80	68	59	77	67	59	75	65	58	73	64	58	55
8	94	74	62	53	91	73	61	53	71	60	52	69	59	52	67	59	52	49
9	88	68	56	48	86	67	56	48	65	55	47	64	54	47	62	53	47	44
10	82	63	51	43	80	62	51	43	61	50	43	59	50	43	58	49	43	40

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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	14.2	15.8	14.6	16.1	16.4	15.5	17.0	15.8	17.3	17.7
	3H	15.5	16.9	15.9	17.2	17.6	16.4	17.8	16.8	18.2	18.5
	4H	15.9	17.2	16.3	17.6	18.0	16.6	17.9	17.0	18.3	18.7
	6H	16.1	17.4	16.6	17.7	18.1	16.7	17.9	17.1	18.3	18.6
	8H	16.2	17.3	16.6	17.7	18.1	16.6	17.8	17.1	18.2	18.6
	12H	16.2	17.3	16.6	17.7	18.1	16.6	17.7	17.1	18.1	18.6

UGR Viewed Endwise

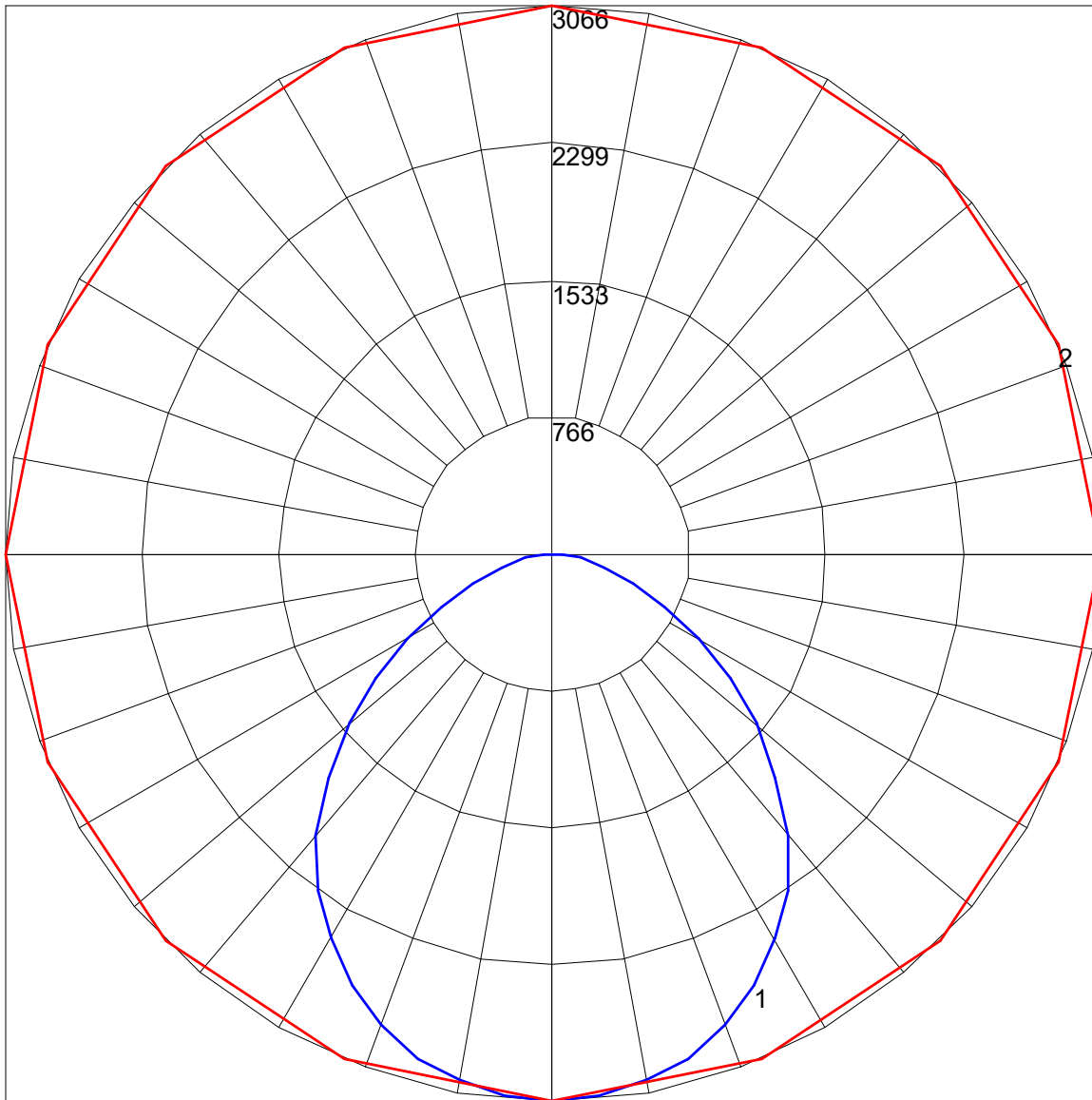
4H	2H	15.0	16.3	15.4	16.6	17.0	15.9	17.3	16.3	17.6	18.0
	3H	16.4	17.5	16.8	17.9	18.3	17.1	18.2	17.5	18.6	19.0
	4H	16.9	17.9	17.4	18.3	18.8	17.4	18.4	17.8	18.8	19.2
	6H	17.2	18.1	17.7	18.5	19.0	17.5	18.3	17.9	18.8	19.2
	8H	17.3	18.1	17.8	18.5	19.0	17.5	18.3	17.9	18.7	19.2
	12H	17.3	18.0	17.8	18.5	19.0	17.5	18.2	18.0	18.7	19.1

8H	4H	17.1	17.9	17.6	18.4	18.8	17.5	18.3	18.0	18.8	19.2
	6H	17.5	18.1	18.0	18.6	19.1	17.7	18.3	18.2	18.8	19.3
	8H	17.6	18.2	18.1	18.7	19.2	17.7	18.3	18.2	18.8	19.3
	12H	17.7	18.2	18.2	18.7	19.2	17.7	18.2	18.2	18.7	19.3

12H	4H	17.1	17.8	17.6	18.3	18.8	17.5	18.2	18.0	18.7	19.2
	6H	17.5	18.1	18.0	18.5	19.1	17.7	18.3	18.2	18.7	19.3
	8H	17.6	18.1	18.1	18.6	19.2	17.7	18.2	18.2	18.7	19.3

Maximum UGR = 19.3

POLAR GRAPH



Maximum Candela = 3065.859 Located At Horizontal Angle = 0, Vertical Angle = 0
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)