

IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-S22-L38-940-A-(L30)-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] GEN FROM BALLABS TEST NO. 20211.0

[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC

[ISSUEDATE] 31 MAR 2023

[MANUFAC] WILLIAMS INDOOR

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

[LUMINAIRE] 2 x 2 LED DUAL APERTURE RECESSED LUMINAIRE

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED LENSES

[LUMCAT] HETG-S22-L38-940-A-(L30)-DIM-UNV

[LAMPCAT] HLM 90 CRI 4000K CCT

[_SEARCH_SOURCETYPE] 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	2826
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	116
Total Luminaire Watts	24.4
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.20
Spacing Criterion (90-270)	1.26
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.91 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	2677	2953	3123
55	2225	2598	2858
65	1749	2134	2025
75	1270	1388	886
85	614	373	153

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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	1144.210	1144.210	1144.210	1144.210	1144.210
5	1139.693	1141.629	1140.984	1137.112	1138.402
10	1121.623	1124.850	1122.268	1120.332	1124.850
15	1090.001	1097.100	1095.164	1096.454	1101.617
20	1039.663	1055.152	1054.506	1062.896	1065.477
25	980.936	996.425	1009.332	1018.367	1020.303
30	909.947	925.436	948.669	958.994	968.675
35	829.278	847.348	875.744	890.587	905.430
40	740.220	760.226	795.720	813.145	831.214
45	639.545	658.260	705.371	726.667	746.028
50	533.707	553.067	606.632	634.382	653.097
55	431.096	451.102	503.375	537.579	553.713
60	336.229	354.299	406.572	420.770	429.805
65	249.752	262.659	304.607	296.217	289.118
70	175.536	191.670	208.449	182.635	161.984
75	111.001	125.844	121.326	94.867	77.442
80	57.436	62.599	50.983	40.012	29.041
85	18.070	18.070	10.971	9.680	4.517
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	417.24	N.A.	14.80
0-30	880.24	N.A.	31.10
0-40	1424.06	N.A.	50.40
0-60	2402.86	N.A.	85.00
0-80	2806.06	N.A.	99.30
0-90	2826.25	N.A.	100.00
10-90	2718.02	N.A.	96.20
20-40	1006.81	N.A.	35.60
20-50	1542.87	N.A.	54.60
40-70	1262.04	N.A.	44.70
60-80	403.20	N.A.	14.30
70-80	119.97	N.A.	4.20
80-90	20.19	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	2826.25	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	108.24
10-20	309.01
20-30	463.00
30-40	543.82
40-50	536.06
50-60	442.74
60-70	283.23
70-80	119.97
80-90	20.19
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	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	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47
6	72	60	51	45	70	59	51	45	57	50	44	55	49	44	54	48	43	42
7	67	54	46	40	65	53	45	40	52	45	39	50	44	39	49	43	39	37
8	63	50	41	36	61	49	41	36	48	40	35	46	40	35	45	39	35	33
9	59	46	38	32	57	45	37	32	44	37	32	43	36	32	42	36	32	30
10	55	42	34	29	54	42	34	29	41	34	29	40	33	29	39	33	29	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

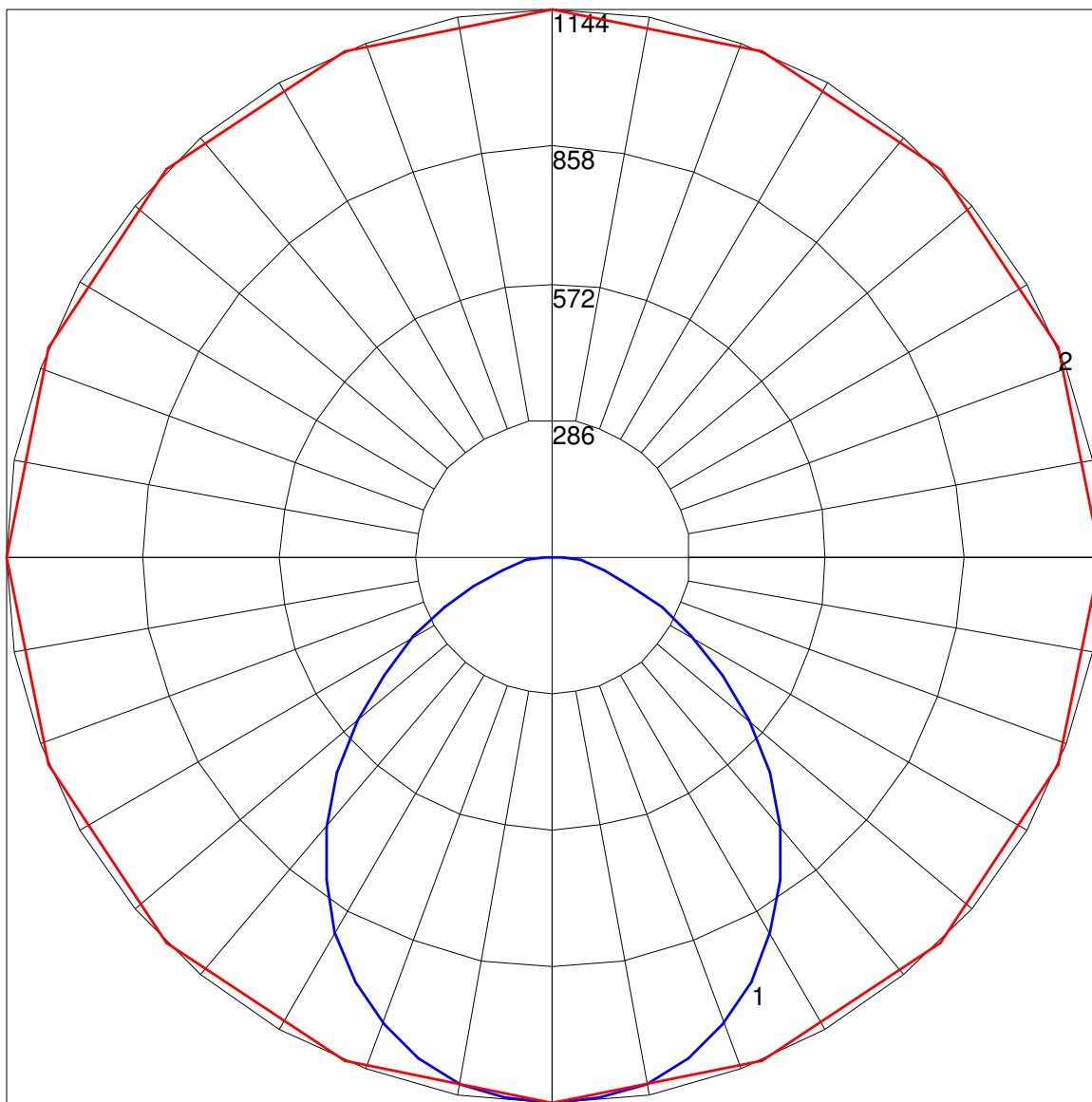
X=2H	Y=2H	14.4	16.0	14.8	16.3	16.6	15.7	17.3	16.1	17.6	17.9
	3H	15.7	17.1	16.1	17.5	17.8	16.7	18.1	17.1	18.4	18.8
	4H	16.2	17.5	16.6	17.8	18.2	16.8	18.2	17.2	18.5	18.9
	6H	16.4	17.6	16.8	18.0	18.4	16.9	18.1	17.3	18.5	18.9
	8H	16.5	17.6	16.9	18.0	18.4	16.9	18.0	17.3	18.4	18.8
	12H	16.5	17.6	16.9	18.0	18.4	16.8	18.0	17.3	18.3	18.8

UGR Viewed Endwise

4H	2H	15.1	16.4	15.5	16.8	17.2	16.2	17.5	16.6	17.8	18.2
	3H	16.6	17.7	17.0	18.1	18.5	17.3	18.4	17.7	18.8	19.2
	4H	17.2	18.1	17.6	18.5	19.0	17.5	18.5	18.0	18.9	19.4
	6H	17.5	18.3	18.0	18.8	19.2	17.6	18.5	18.1	18.9	19.4
	8H	17.6	18.4	18.0	18.8	19.3	17.6	18.4	18.1	18.9	19.3
	12H	17.6	18.3	18.1	18.8	19.3	17.6	18.3	18.1	18.8	19.3
8H	4H	17.3	18.1	17.8	18.6	19.0	17.7	18.5	18.1	18.9	19.4
	6H	17.7	18.4	18.2	18.9	19.4	17.8	18.5	18.3	19.0	19.4
	8H	17.9	18.4	18.4	18.9	19.4	17.8	18.4	18.3	18.9	19.4
	12H	17.9	18.4	18.4	18.9	19.5	17.8	18.3	18.3	18.8	19.4
12H	4H	17.3	18.0	17.8	18.5	19.0	17.7	18.4	18.2	18.9	19.3
	6H	17.7	18.3	18.3	18.8	19.3	17.8	18.4	18.4	18.9	19.4
	8H	17.9	18.4	18.4	18.9	19.4	17.8	18.4	18.3	18.8	19.4

Maximum UGR = 19.5

POLAR GRAPH



Maximum Candela = 1144.21 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.)