



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-S24-L50-840-A-(L42)-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
 [ISSUEDATE] 11-JAN-2021
 [MANUFAC] WILLIAMS INDOOR
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
 [LUMINAIRE] 4-28 LED 22"ARRAYS DUAL APERATURE 2x4'RECESSED
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED LENSES
 [LUMCAT] HETG-S24-L50-840-A-(L42)-DIM-UNV
 [LAMPCAT] HLM 80 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	4505
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	141
Total Luminaire Watts	32
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	2112	2260	2352
55	1774	2059	2159
65	1380	1760	1495
75	982	1143	735
85	490	298	223

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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	1794.659	1794.659	1794.659	1794.659	1794.659
5	1785.000	1785.000	1777.273	1775.341	1777.917
10	1756.023	1755.379	1752.159	1750.227	1752.159
15	1710.947	1710.947	1716.742	1710.947	1714.167
20	1646.553	1647.841	1663.939	1655.568	1659.432
25	1560.265	1566.061	1586.667	1582.803	1591.818
30	1460.455	1476.553	1486.856	1503.598	1506.818
35	1345.189	1365.151	1372.879	1403.144	1405.076
40	1204.167	1227.992	1248.598	1274.356	1287.879
45	1036.742	1065.076	1109.508	1130.114	1154.583
50	868.030	897.651	964.621	992.955	1017.424
55	706.401	736.667	819.735	859.659	859.659
60	552.500	580.833	679.356	710.265	660.038
65	405.038	437.879	516.439	511.932	438.523
70	280.758	310.379	354.811	317.462	254.356
75	176.439	196.402	205.417	162.917	132.008
80	90.795	98.523	89.508	68.258	55.379
85	29.621	24.470	18.030	16.098	13.523
90	0.000	0.000	0.000	0.000	0.000

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Zone	Lumens	%Lamp	%Fixt
0-20	652.26	N.A.	14.50
0-30	1379.28	N.A.	30.60
0-40	2239.95	N.A.	49.70
0-60	3803.21	N.A.	84.40
0-80	4472.01	N.A.	99.30
0-90	4505.32	N.A.	100.00
10-90	4336.21	N.A.	96.20
20-40	1587.69	N.A.	35.20
20-50	2436.84	N.A.	54.10
40-70	2033.26	N.A.	45.10
60-80	668.81	N.A.	14.80
70-80	198.80	N.A.	4.40
80-90	33.31	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	4505.32	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	169.11
10-20	483.15
20-30	727.03
30-40	860.66
40-50	849.15
50-60	714.11
60-70	470.00
70-80	198.80
80-90	33.31
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	81	98	91	85	80	88	83	78	84	80	77	81	78	75	73
3	92	82	74	68	90	81	73	68	78	72	67	75	70	65	72	68	64	62
4	85	73	65	58	82	72	64	58	69	63	57	67	61	56	65	60	56	54
5	78	66	57	51	76	64	56	50	62	55	50	60	54	49	59	53	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	44	39	49	43	38	36
8	62	49	41	35	61	48	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	43	36	32	42	36	31	41	36	31	29
10	55	42	34	29	53	41	34	29	40	33	29	39	33	29	38	33	28	27

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UGR TABLE - CORRECTED

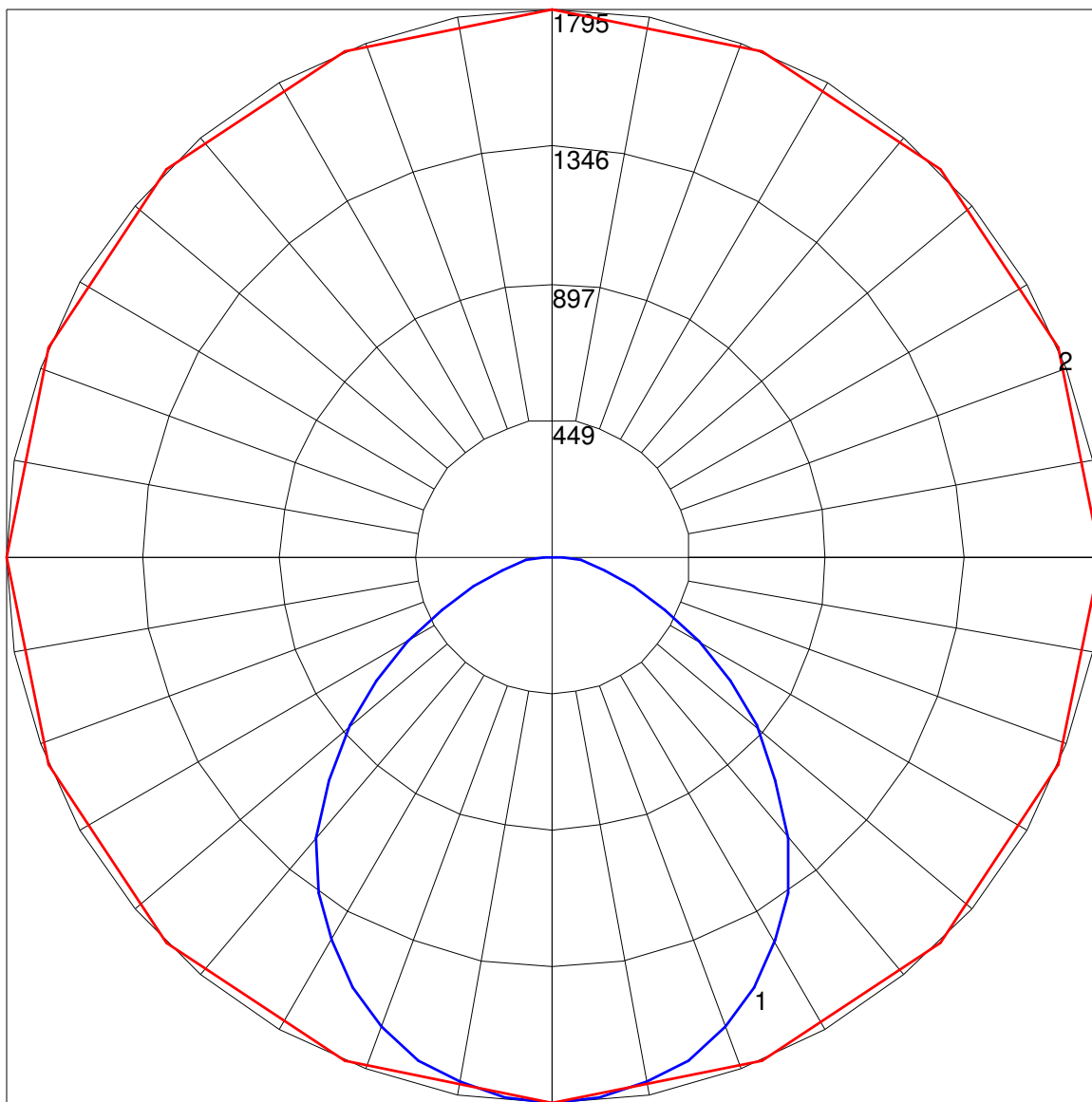
Reflectances

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					UGR Viewed Endwise				
X=2H	Y=2H	13.7	15.3	14.1	15.6	15.9	15.0	16.5	15.3	16.8	17.2
	3H	15.0	16.4	15.4	16.7	17.1	15.9	17.3	16.3	17.7	18.0
	4H	15.4	16.7	15.8	17.1	17.5	16.1	17.4	16.5	17.8	18.2
	6H	15.6	16.9	16.1	17.2	17.6	16.2	17.4	16.6	17.8	18.1
	8H	15.7	16.8	16.1	17.2	17.6	16.1	17.3	16.6	17.7	18.1
	12H	15.7	16.8	16.1	17.2	17.6	16.1	17.2	16.6	17.6	18.1
4H	2H	14.5	15.8	14.9	16.1	16.5	15.4	16.8	15.8	17.1	17.5
	3H	15.9	17.0	16.3	17.4	17.8	16.6	17.7	17.0	18.1	18.5
	4H	16.4	17.4	16.9	17.8	18.3	16.9	17.9	17.3	18.3	18.7
	6H	16.7	17.6	17.2	18.0	18.5	17.0	17.8	17.4	18.3	18.7
	8H	16.8	17.6	17.3	18.0	18.5	17.0	17.8	17.4	18.2	18.7
	12H	16.8	17.5	17.3	18.0	18.5	17.0	17.7	17.5	18.2	18.6
8H	4H	16.6	17.4	17.1	17.9	18.3	17.0	17.8	17.5	18.3	18.7
	6H	17.0	17.6	17.5	18.1	18.6	17.2	17.8	17.7	18.3	18.8
	8H	17.1	17.7	17.6	18.2	18.7	17.2	17.8	17.7	18.3	18.8
	12H	17.2	17.7	17.7	18.2	18.7	17.2	17.7	17.7	18.2	18.8
12H	4H	16.6	17.3	17.1	17.8	18.3	17.0	17.7	17.5	18.2	18.7
	6H	17.0	17.6	17.5	18.0	18.6	17.2	17.8	17.7	18.2	18.8
	8H	17.1	17.6	17.6	18.1	18.7	17.2	17.7	17.7	18.2	18.8

Maximum UGR = 18.8

POLAR GRAPH



Maximum Candela = 1794.659 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.)