



IES INDOOR REPORT

PHOTOMETRIC FILENAME : HETG-S24-L60-935-A-(L55)-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] 28 JUNE 2022

[MANUFAC] WILLIAMS INDOOR

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

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

[MORE] WHITE REFLECTOR w/FROSTED ACRYLIC RIBBED LENSES

[LUMCAT] HETG-S24-L60-935-A-(L55)-DIM-UNV

[LAMPCAT] HLM 90 CRI 3500K 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	4745
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	117
Total Luminaire Watts	40.4
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	2224	2381	2477
55	1868	2168	2274
65	1454	1854	1574
75	1034	1204	774
85	516	314	235

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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	1890.268	1890.268	1890.268	1890.268	1890.268
5	1880.094	1880.094	1871.955	1869.921	1872.634
10	1849.573	1848.895	1845.504	1843.469	1845.504
15	1802.096	1802.096	1808.200	1802.096	1805.487
20	1734.272	1735.628	1752.584	1743.767	1747.837
25	1643.387	1649.491	1671.195	1667.125	1676.621
30	1538.259	1555.215	1566.067	1583.701	1587.093
35	1416.853	1437.879	1446.018	1477.895	1479.930
40	1268.318	1293.413	1315.116	1342.246	1356.489
45	1091.974	1121.817	1168.616	1190.319	1216.093
50	914.274	945.473	1016.011	1045.853	1071.627
55	744.034	775.912	863.406	905.457	905.457
60	581.934	611.777	715.548	748.104	695.201
65	426.616	461.206	543.952	539.205	461.885
70	295.715	326.914	373.713	334.375	267.907
75	185.839	206.865	216.360	171.596	139.040
80	95.633	103.771	94.276	71.894	58.329
85	31.199	25.773	18.991	16.956	14.243
90	0.000	0.000	0.000	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	687.00	N.A.	14.50
0-30	1452.76	N.A.	30.60
0-40	2359.28	N.A.	49.70
0-60	4005.82	N.A.	84.40
0-80	4710.25	N.A.	99.30
0-90	4745.34	N.A.	100.00
10-90	4567.22	N.A.	96.20
20-40	1672.27	N.A.	35.20
20-50	2566.66	N.A.	54.10
40-70	2141.58	N.A.	45.10
60-80	704.44	N.A.	14.80
70-80	209.39	N.A.	4.40
80-90	35.08	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	4745.34	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	178.12
10-20	508.89
20-30	765.76
30-40	906.51
40-50	894.38
50-60	752.16
60-70	495.04
70-80	209.39
80-90	35.08
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

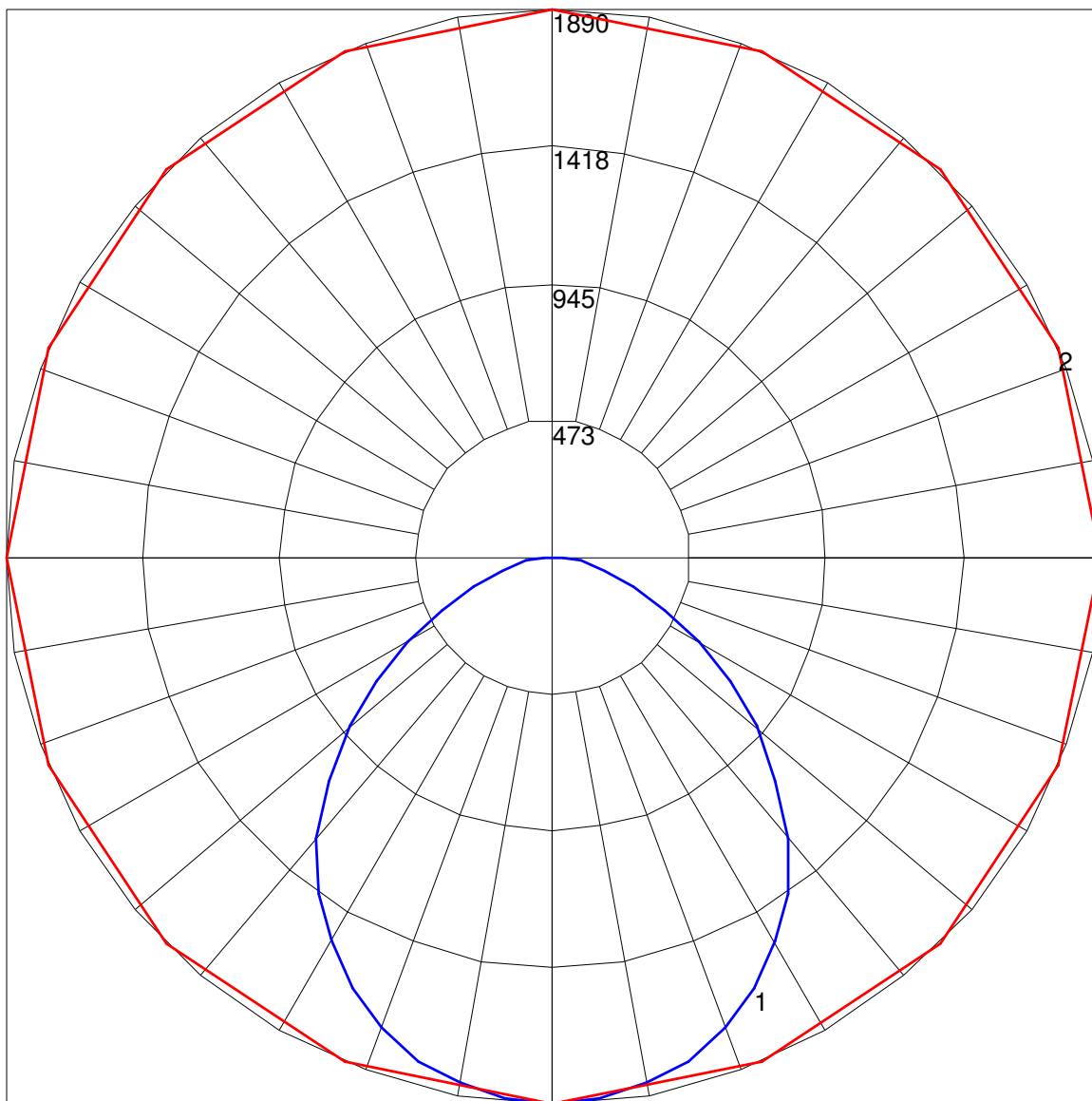
Reflectances

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	13.9	15.5	14.3	15.8	16.1	15.2	16.7	15.5	17.0	17.4
	3H	15.2	16.6	15.6	16.9	17.3	16.1	17.5	16.5	17.9	18.2
	4H	15.6	16.9	16.0	17.3	17.7	16.3	17.6	16.7	18.0	18.4
	6H	15.8	17.1	16.3	17.4	17.8	16.4	17.6	16.8	18.0	18.3
	8H	15.9	17.0	16.3	17.4	17.8	16.3	17.5	16.8	17.9	18.3
	12H	15.9	17.0	16.3	17.4	17.8	16.3	17.4	16.8	17.8	18.3
4H	2H	14.7	16.0	15.1	16.3	16.7	15.6	17.0	16.0	17.3	17.7
	3H	16.1	17.2	16.5	17.6	18.0	16.8	17.9	17.2	18.3	18.7
	4H	16.6	17.6	17.1	18.0	18.5	17.1	18.1	17.5	18.5	18.9
	6H	16.9	17.8	17.4	18.2	18.7	17.2	18.0	17.6	18.5	18.9
	8H	17.0	17.8	17.5	18.2	18.7	17.2	18.0	17.6	18.4	18.9
	12H	17.0	17.7	17.5	18.2	18.7	17.2	17.9	17.7	18.4	18.8
8H	4H	16.8	17.6	17.3	18.1	18.5	17.2	18.0	17.7	18.5	18.9
	6H	17.2	17.8	17.7	18.3	18.8	17.4	18.0	17.9	18.5	19.0
	8H	17.3	17.9	17.8	18.4	18.9	17.4	18.0	17.9	18.5	19.0
	12H	17.4	17.9	17.9	18.4	18.9	17.4	17.9	17.9	18.4	19.0
12H	4H	16.8	17.5	17.3	18.0	18.5	17.2	17.9	17.7	18.4	18.9
	6H	17.2	17.8	17.7	18.2	18.8	17.4	18.0	17.9	18.4	19.0
	8H	17.3	17.8	17.8	18.3	18.9	17.4	17.9	17.9	18.4	19.0

Maximum UGR = 19.0

POLAR GRAPH



Maximum Candela = 1890.268 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.)