



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L39-830-AF-DIM-UNV\_.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
 [TEST] GEN FROM BALLABS TEST NO. 20203.0  
 [TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC  
 [ISSUEDATE] 2023-07-21  
 [MANUFAC] WILLIAMS INDOOR  
 [OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO  
 [LUMINAIRE] 2x2 RECESSED LED LUMINAIRE  
 [MORE] WHITE REFLECTOR w/FROSTED ACRYLIC CENTER LENS  
 [MORE] 0-10V DIMMING DRIVER  
 [LUMCAT] LT-22-L39-830-AF-DIM-UNV  
 [LAMPCAT] 22 INCH LED ARRAY  
 [\_SEARCH\_SOURCETYPE] LED  
 [\_SEARCH\_APPLICATION] Indoor, Classroom, Office, Direct  
 [\_SEARCH\_MOUNTING] Recessed

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3894
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	118
Total Luminaire Watts	33.1
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.40
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	1.92 ft
Luminous Width (90-270)	1.92 ft
Luminous Height	0.00 ft

### LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	3368	3617	3894
55	3053	3559	4015
65	2690	3525	4352
75	2070	3736	5086
85	899	3036	2961

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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>
<b>0</b>	1295.987	1295.987	1295.987	1295.987	1295.987
<b>5</b>	1294.871	1289.290	1288.173	1283.708	1287.057
<b>10</b>	1272.546	1266.964	1271.429	1266.964	1270.313
<b>15</b>	1239.058	1236.825	1243.523	1245.755	1249.104
<b>20</b>	1185.477	1193.291	1203.337	1214.500	1216.732
<b>25</b>	1124.082	1139.710	1154.221	1172.081	1176.547
<b>30</b>	1058.222	1076.082	1097.291	1124.082	1133.012
<b>35</b>	985.665	1001.292	1026.967	1067.152	1076.082
<b>40</b>	903.061	918.689	954.409	996.827	1011.339
<b>45</b>	813.759	828.271	874.038	918.689	941.014
<b>50</b>	708.830	727.807	785.853	831.620	863.991
<b>55</b>	598.320	625.110	697.668	747.900	786.969
<b>60</b>	493.390	523.530	607.250	670.877	708.830
<b>65</b>	388.461	420.833	509.018	594.971	628.459
<b>70</b>	285.765	320.369	418.601	512.367	546.971
<b>75</b>	183.068	225.486	330.415	423.066	449.856
<b>80</b>	90.418	141.766	227.719	311.439	302.509
<b>85</b>	26.790	54.697	90.418	152.929	88.185
<b>90</b>	0.000	0.000	0.000	0.000	0.000

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	472.92	N.A.	12.10
0-30	1005.18	N.A.	25.80
0-40	1650.55	N.A.	42.40
0-60	2943.55	N.A.	75.60
0-80	3786.4	N.A.	97.20
0-90	3894.49	N.A.	100.00
10-90	3772.12	N.A.	96.90
20-40	1177.63	N.A.	30.20
20-50	1851.65	N.A.	47.50
40-70	1796.88	N.A.	46.10
60-80	842.86	N.A.	21.60
70-80	338.98	N.A.	8.70
80-90	108.09	N.A.	2.80
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	3894.49	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	122.37
10-20	350.55
20-30	532.26
30-40	645.38
40-50	674.02
50-60	618.97
60-70	503.88
70-80	338.98
80-90	108.09
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	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	81	75	84	78	73	80	76	71	77	73	70	68
3	89	78	69	63	86	76	68	62	73	66	61	70	65	60	68	63	59	56
4	81	69	60	53	79	67	59	52	65	57	52	62	56	51	60	55	50	48
5	75	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	45	39	51	44	38	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	34	46	39	34	45	38	34	32
8	59	46	37	31	58	45	37	31	43	36	31	42	35	30	41	35	30	28
9	55	42	33	28	54	41	33	28	40	33	27	39	32	27	38	32	27	25
10	52	39	30	25	51	38	30	25	37	30	25	36	29	25	35	29	25	23

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**UGR TABLE - CORRECTED**

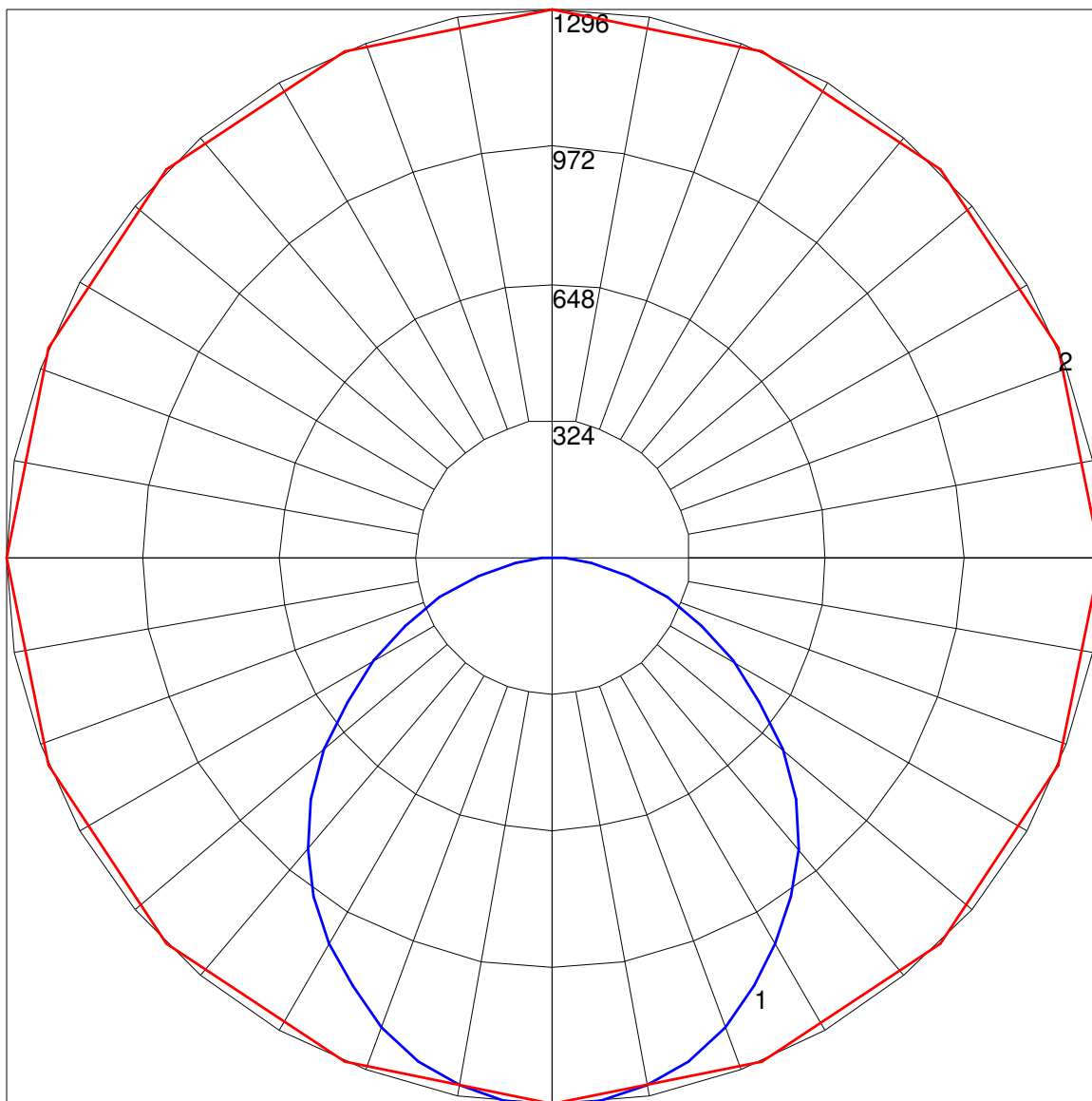
Reflectances

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	15.6	17.3	16.0	17.6	17.9	17.2	18.9	17.6	19.2	19.5
	3H	17.2	18.8	17.6	19.1	19.4	19.8	21.3	20.1	21.6	22.0
	4H	17.8	19.2	18.2	19.6	20.0	20.9	22.4	21.3	22.7	23.1
	6H	18.1	19.5	18.5	19.8	20.2	21.9	23.2	22.3	23.6	24.0
	8H	18.2	19.5	18.6	19.9	20.3	22.2	23.5	22.6	23.9	24.3
	12H	18.2	19.5	18.7	19.8	20.3	22.3	23.6	22.8	24.0	24.4
4H	2H	16.5	18.0	16.9	18.3	18.7	17.8	19.2	18.2	19.6	19.9
	3H	18.4	19.6	18.8	20.0	20.4	20.6	21.8	21.0	22.2	22.6
	4H	19.1	20.2	19.5	20.6	21.1	21.9	23.1	22.4	23.5	23.9
	6H	19.6	20.5	20.0	21.0	21.4	23.1	24.1	23.6	24.6	25.0
	8H	19.7	20.6	20.1	21.0	21.5	23.5	24.4	24.0	24.9	25.3
	12H	19.7	20.6	20.2	21.0	21.5	23.7	24.6	24.2	25.0	25.5
8H	4H	19.8	20.7	20.3	21.2	21.7	22.2	23.2	22.7	23.6	24.1
	6H	20.5	21.2	21.0	21.7	22.2	23.6	24.4	24.1	24.9	25.4
	8H	20.7	21.4	21.2	21.9	22.3	24.2	24.9	24.7	25.4	25.8
	12H	20.8	21.4	21.3	21.9	22.4	24.5	25.1	25.0	25.6	26.2
12H	4H	20.0	20.8	20.5	21.3	21.8	22.3	23.1	22.7	23.6	24.0
	6H	20.7	21.4	21.3	21.9	22.4	23.7	24.4	24.2	24.8	25.4
	8H	21.0	21.6	21.5	22.1	22.7	24.3	24.9	24.8	25.4	25.9

Maximum UGR = 26.2

POLAR GRAPH



Maximum Candela = 1295.987 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.)