



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L27-930-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-L27-930-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	2232
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	105
Total Luminaire Watts	21.3
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	1930	2073	2232
55	1749	2040	2301
65	1542	2020	2494
75	1186	2141	2915
85	516	1740	1697

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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>	742.734	742.734	742.734	742.734	742.734
<b>5</b>	742.094	738.895	738.256	735.697	737.616
<b>10</b>	729.299	726.101	728.660	726.101	728.020
<b>15</b>	710.107	708.828	712.666	713.946	715.865
<b>20</b>	679.400	683.878	689.636	696.033	697.313
<b>25</b>	644.214	653.171	661.487	671.723	674.282
<b>30</b>	606.470	616.706	628.861	644.214	649.332
<b>35</b>	564.887	573.843	588.557	611.588	616.706
<b>40</b>	517.547	526.503	546.975	571.285	579.601
<b>45</b>	466.368	474.684	500.914	526.503	539.298
<b>50</b>	406.233	417.108	450.374	476.604	495.156
<b>55</b>	342.899	358.252	399.835	428.623	451.014
<b>60</b>	282.763	300.036	348.017	384.482	406.233
<b>65</b>	222.628	241.181	291.720	340.979	360.172
<b>70</b>	163.772	183.604	239.901	293.639	313.471
<b>75</b>	104.917	129.227	189.362	242.460	257.814
<b>80</b>	51.819	81.247	130.506	178.486	173.369
<b>85</b>	15.354	31.347	51.819	87.644	50.539
<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	271.03	N.A.	12.10
0-30	576.07	N.A.	25.80
0-40	945.94	N.A.	42.40
0-60	1686.95	N.A.	75.60
0-80	2170.00	N.A.	97.20
0-90	2231.94	N.A.	100.00
10-90	2161.81	N.A.	96.90
20-40	674.90	N.A.	30.20
20-50	1061.19	N.A.	47.50
40-70	1029.79	N.A.	46.10
60-80	483.04	N.A.	21.60
70-80	194.27	N.A.	8.70
80-90	61.95	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	2231.94	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	70.13
10-20	200.90
20-30	305.04
30-40	369.87
40-50	386.28
50-60	354.74
60-70	288.78
70-80	194.27
80-90	61.95
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**

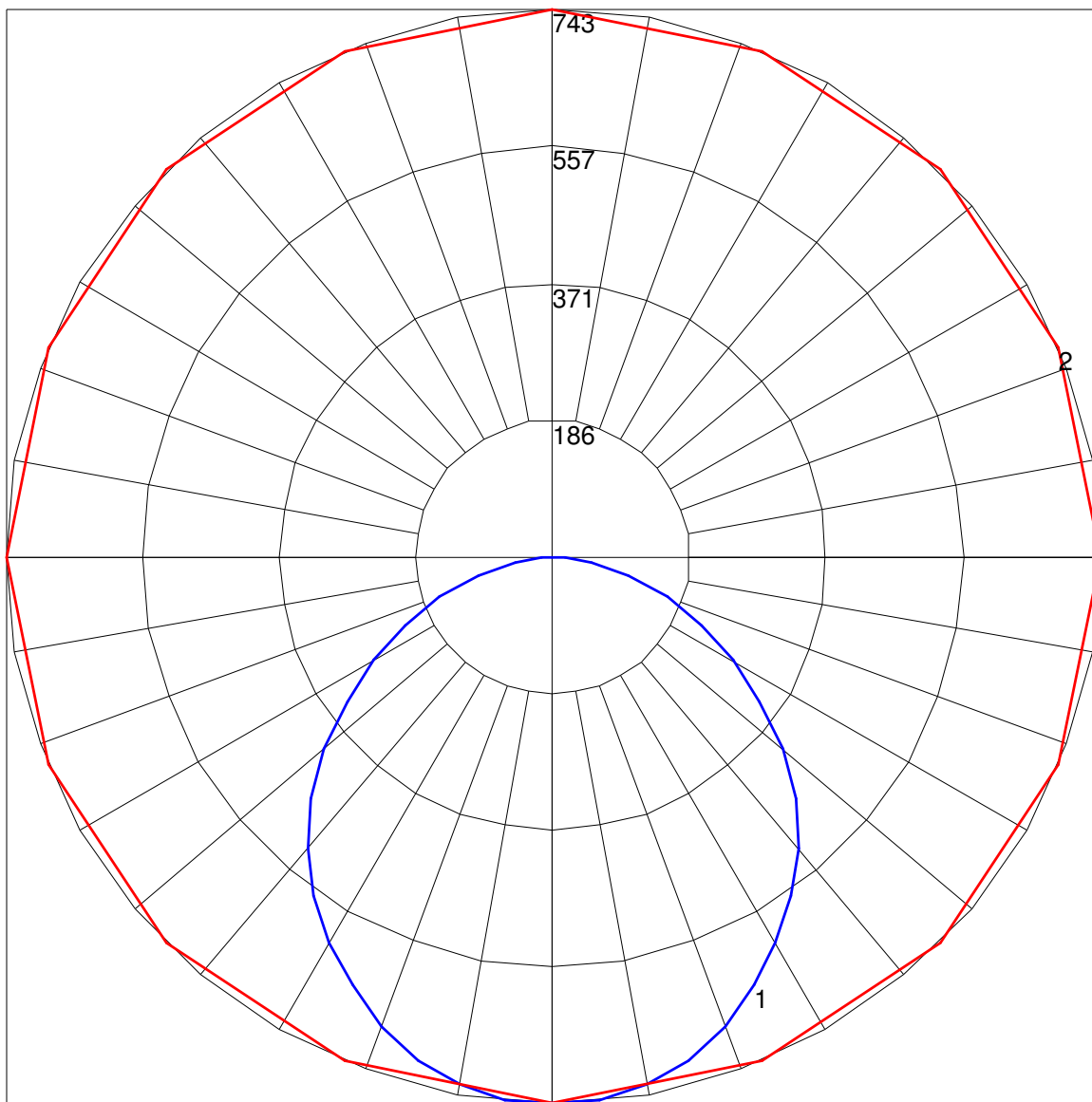
Reflectances

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	13.7	15.4	14.1	15.7	16.0	15.3	17.0	15.7	17.3	17.6
	3H	15.3	16.9	15.7	17.2	17.5	17.9	19.4	18.2	19.7	20.1
	4H	15.9	17.3	16.3	17.7	18.1	19.0	20.5	19.4	20.8	21.2
	6H	16.2	17.6	16.6	17.9	18.3	20.0	21.3	20.4	21.7	22.1
	8H	16.3	17.6	16.7	18.0	18.4	20.3	21.6	20.7	22.0	22.4
	12H	16.3	17.6	16.8	17.9	18.4	20.4	21.7	20.9	22.1	22.5
4H	2H	14.6	16.1	15.0	16.4	16.8	15.9	17.3	16.3	17.7	18.0
	3H	16.5	17.7	16.9	18.1	18.5	18.7	19.9	19.1	20.3	20.7
	4H	17.2	18.3	17.6	18.7	19.2	20.0	21.2	20.5	21.6	22.0
	6H	17.7	18.6	18.1	19.1	19.5	21.2	22.2	21.7	22.7	23.1
	8H	17.8	18.7	18.2	19.1	19.6	21.6	22.5	22.1	23.0	23.4
	12H	17.8	18.7	18.3	19.1	19.6	21.8	22.7	22.3	23.1	23.6
8H	4H	17.9	18.9	18.4	19.3	19.8	20.3	21.3	20.8	21.7	22.2
	6H	18.6	19.3	19.1	19.8	20.3	21.7	22.5	22.2	23.0	23.5
	8H	18.8	19.5	19.3	20.0	20.4	22.3	23.0	22.8	23.5	23.9
	12H	18.9	19.5	19.4	20.0	20.5	22.6	23.2	23.1	23.7	24.3
12H	4H	18.1	18.9	18.6	19.4	19.9	20.4	21.2	20.8	21.7	22.1
	6H	18.9	19.5	19.4	20.0	20.5	21.8	22.5	22.3	22.9	23.5
	8H	19.1	19.7	19.6	20.2	20.8	22.4	23.0	22.9	23.5	24.0

Maximum UGR = 24.3

POLAR GRAPH



Maximum Candela = 742.734 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.)