



## IES INDOOR REPORT

PHOTOMETRIC FILENAME : LT-22-L27-950-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-L27-950-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	2422
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	114
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	2095	2250	2422
55	1899	2214	2497
65	1673	2192	2707
75	1287	2324	3164
85	560	1888	1842

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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>	806.138	806.138	806.138	806.138	806.138
<b>5</b>	805.444	801.972	801.278	798.500	800.583
<b>10</b>	791.557	788.085	790.862	788.085	790.168
<b>15</b>	770.726	769.338	773.504	774.892	776.975
<b>20</b>	737.398	742.258	748.507	755.451	756.839
<b>25</b>	699.208	708.929	717.956	729.065	731.843
<b>30</b>	658.242	669.351	682.544	699.208	704.763
<b>35</b>	613.109	622.830	638.800	663.797	669.351
<b>40</b>	561.728	571.448	593.668	620.053	629.079
<b>45</b>	506.180	515.206	543.674	571.448	585.335
<b>50</b>	440.911	452.715	488.821	517.289	537.425
<b>55</b>	372.171	388.835	433.967	465.213	489.515
<b>60</b>	306.902	325.649	377.725	417.303	440.911
<b>65</b>	241.633	261.769	316.623	370.087	390.918
<b>70</b>	177.753	199.278	260.380	318.706	340.231
<b>75</b>	113.873	140.258	205.527	263.158	279.822
<b>80</b>	56.242	88.182	141.647	193.723	188.168
<b>85</b>	16.664	34.023	56.242	95.126	54.853
<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	294.17	N.A.	12.10
0-30	625.25	N.A.	25.80
0-40	1026.69	N.A.	42.40
0-60	1830.96	N.A.	75.60
0-80	2355.24	N.A.	97.20
0-90	2422.48	N.A.	100.00
10-90	2346.36	N.A.	96.90
20-40	732.52	N.A.	30.20
20-50	1151.78	N.A.	47.50
40-70	1117.7	N.A.	46.10
60-80	524.28	N.A.	21.60
70-80	210.85	N.A.	8.70
80-90	67.23	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	2422.48	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	76.12
10-20	218.05
20-30	331.08
30-40	401.44
40-50	419.26
50-60	385.02
60-70	313.43
70-80	210.85
80-90	67.23
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**

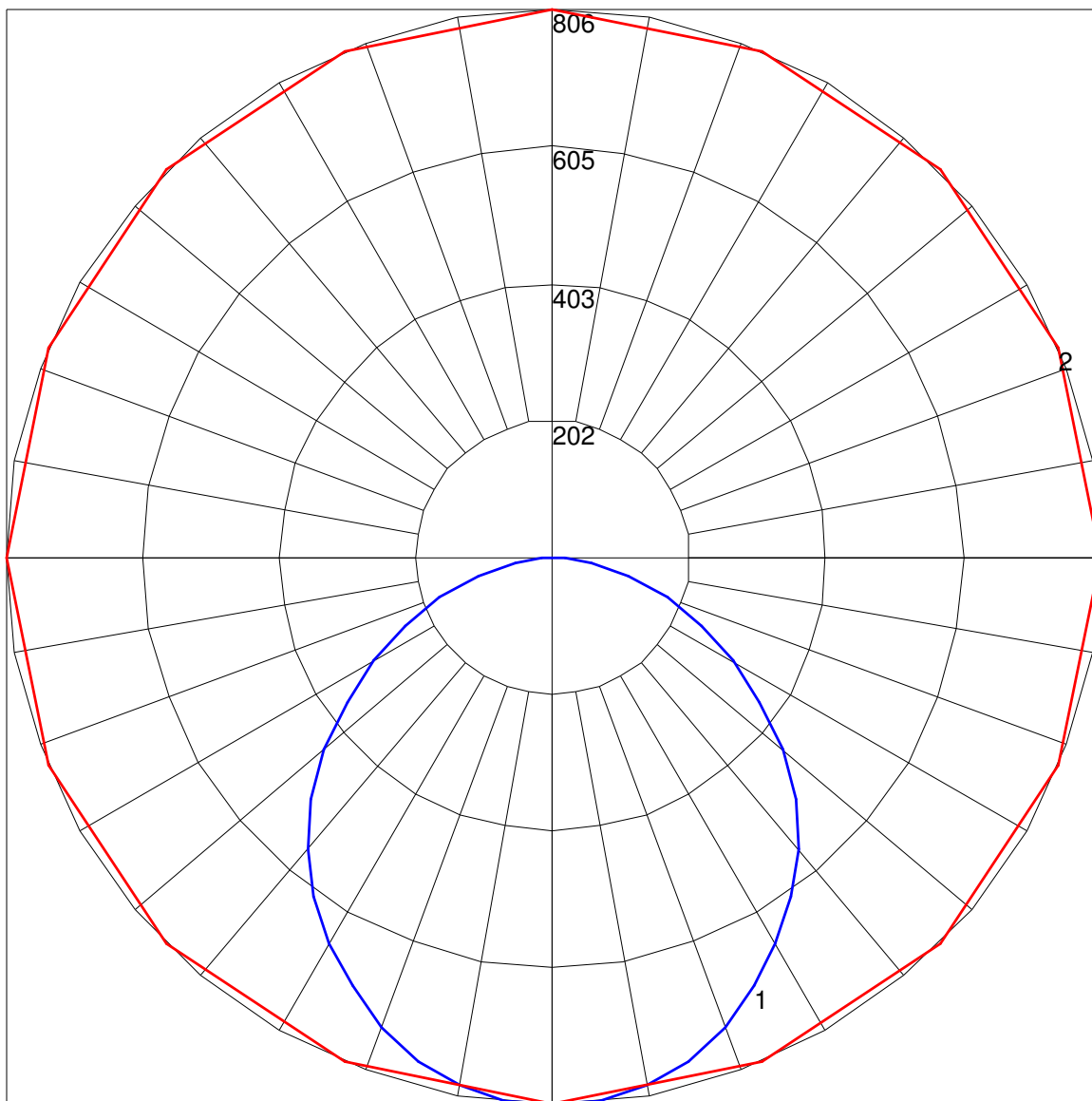
Reflectances

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	14.0	15.7	14.4	16.0	16.3	15.6	17.3	16.0	17.6	17.9
	3H	15.6	17.2	16.0	17.5	17.8	18.2	19.7	18.5	20.0	20.4
	4H	16.2	17.6	16.6	18.0	18.4	19.3	20.8	19.7	21.1	21.5
	6H	16.5	17.9	16.9	18.2	18.6	20.3	21.6	20.7	22.0	22.4
	8H	16.6	17.9	17.0	18.3	18.7	20.6	21.9	21.0	22.3	22.7
	12H	16.6	17.9	17.1	18.2	18.7	20.7	22.0	21.2	22.4	22.8
4H	2H	14.9	16.4	15.3	16.7	17.1	16.2	17.6	16.6	18.0	18.3
	3H	16.8	18.0	17.2	18.4	18.8	19.0	20.2	19.4	20.6	21.0
	4H	17.5	18.6	17.9	19.0	19.5	20.3	21.5	20.8	21.9	22.3
	6H	18.0	18.9	18.4	19.4	19.8	21.5	22.5	22.0	23.0	23.4
	8H	18.1	19.0	18.5	19.4	19.9	21.9	22.8	22.4	23.3	23.7
	12H	18.1	19.0	18.6	19.4	19.9	22.1	23.0	22.6	23.4	23.9
8H	4H	18.2	19.1	18.7	19.6	20.1	20.6	21.6	21.1	22.0	22.5
	6H	18.9	19.6	19.4	20.1	20.6	22.0	22.8	22.5	23.3	23.8
	8H	19.1	19.8	19.6	20.3	20.7	22.6	23.3	23.1	23.8	24.2
	12H	19.2	19.8	19.7	20.3	20.8	22.9	23.5	23.4	24.0	24.6
12H	4H	18.4	19.2	18.9	19.7	20.2	20.7	21.5	21.1	22.0	22.4
	6H	19.1	19.8	19.7	20.3	20.8	22.1	22.8	22.6	23.2	23.8
	8H	19.4	20.0	19.9	20.5	21.1	22.7	23.3	23.2	23.8	24.3

Maximum UGR = 24.6

POLAR GRAPH



Maximum Candela = 806.138 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.)